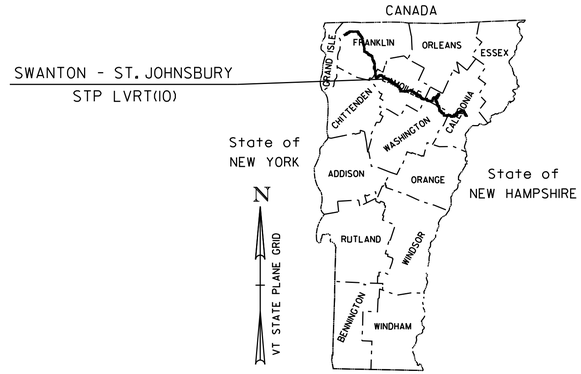
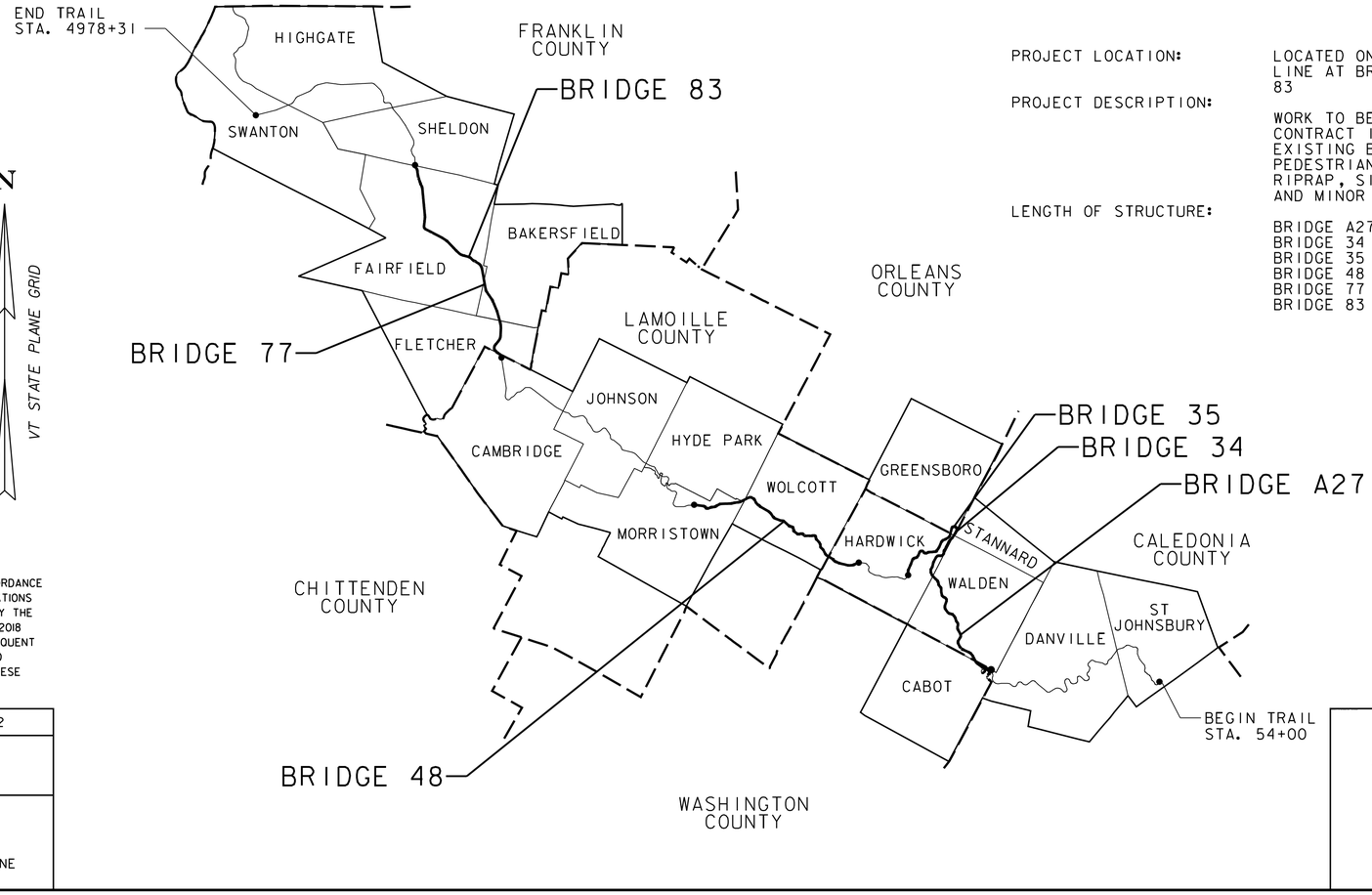
STATE OF VERMONT
AGENCY OF TRANSPORTATION



PROPOSED IMPROVEMENT

LAMOILLE VALLEY RAIL TRAIL
SWANTON - ST. JOHNSBURY STP LVRT (10)



PROJECT LOCATION: LOCATED ON THE FORMER LAMOILLE VALLEY RAIL LINE AT BRIDGES A27, 34, 35, 48, 77, AND 83

PROJECT DESCRIPTION: WORK TO BE PERFORMED UNDER THIS CONTRACT INCLUDES THE DEMOLITION OF EXISTING BRIDGES, CONSTRUCTION OF NEW PEDESTRIAN BRIDGES, ADDITION OF STONE RIPRAP, SIGNING, INSTALLATION OF RAILINGS, AND MINOR TRAIL APPROACH WORK.

LENGTH OF STRUCTURE:

BRIDGE A27 = 154'-0"
BRIDGE 34 = 109'-0"
BRIDGE 35 = 127'-0"
BRIDGE 48 = 160'-0"
BRIDGE 77 = 100'-0"
BRIDGE 83 = 150'-0"

CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2018, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON APRIL 13, 2018 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

QUALITY ASSURANCE PROGRAM : LEVEL 2

SURVEYED BY : VHB
SURVEYED DATE : JULY 2020

DATUM
VERTICAL NAVD 88
HORIZONTAL VERMONT STATE PLANE NAD83 (2011)

HIGHWAY DIVISION, CHIEF ENGINEER
APPROVED _____ DATE _____

PROJECT MANAGER : JOEL PERRIGO

PROJECT NAME : LAMOILLE VALLEY RAIL TRAIL
PROJECT NUMBER : STP LVRT (10)

SHEET 1 OF 99 SHEETS

INDEX OF SHEETS

VAOT STANDARDS

A-79	3-31-2004	RAIL TRAIL TYPICAL
E-10	7-1-2019	ROLLED EROSION CONTROL PRODUCT, TYPE I
E-12	7-1-2019	STABILIZED CONSTRUCTION ENTRANCE
E-15	7-1-2019	SILT FENCE
S-500	4-7-2020	CONCRETE DETAILS AND NOTES
S-501	4-7-2020	CONCRETE DETAILS AND NOTES
S-600	4-7-2020	STRUCTURAL STEEL DETAILS & NOTES
T-1	4-25-2016	TRAFFIC CONTROL GENERAL NOTES
T-2	4-7-2020	TRAFFIC SIGN GENERAL NOTES
T-10	8-6-2012	CONVENTIONAL ROADS CONSTRUCTION APPROACH SIGNING
T-17	8-6-2012	TRAFFIC CONTROL MISCELLANEOUS DETAILS
T-28	8-6-2012	CONSTRUCTION SIGN DETAILS
T-30	8-6-2012	CONSTRUCTION SIGN DETAILS

TEMPORARY BRIDGE SHEET

MABEY BRIDGE DETAIL STANDARD TYPICAL 100FT SPAN HS25 LOADING

PROJECT NAME: SWANTON - ST. JOHNSBURY
PROJECT NUMBER: STP LVRT(10)

FILE NAME: z20f232index.dgn
PROJECT LEADER: E.P. DETRICK
DESIGNED BY: B.O. CRONIN
INDEX OF SHEETS

PLOT DATE: 6/2/2021
DRAWN BY: B.O. CRONIN
CHECKED BY: E.P. DETRICK
SHEET 2 OF 99

GENERAL INFORMATION

SYMBOLOGY LEGEND NOTE

THE SYMBOLOGY ON THIS SHEET IS INTENDED TO COVER STANDARD CONVENTIONAL SYMBOLOGY. THE SYMBOLOGY IS USED FOR EXISTING & PROPOSED FEATURES WITH HEAVIER LINEWEIGHT, IN COMBINATION WITH PROJECT ANNOTATION, AS NOTED ON PROJECT PLAN SHEETS. THIS LEGEND SHEET COVERS THE BASICS. SYMBOLOGY ON PLANS MAY VARY, PLAN ANNOTATIONS AND NOTES SHOULD BE USED TO CLARIFY AS NEEDED.

R.O.W. ABBREVIATIONS (CODES) & SYMBOLS

POINT	CODE	DESCRIPTION
	CH	CHANNEL EASEMENT
	CONST	CONSTRUCTION EASEMENT
	CUL	CULVERT EASEMENT
	D&C	DISCONNECT & CONNECT
	DIT	DITCH EASEMENT
	DR	DRAINAGE EASEMENT
	DRIVE	DRIVEWAY EASEMENT
	EC	EROSION CONTROL
	HWY	HIGHWAY EASEMENT
	I&M	INSTALL & MAINTAIN EASEMENT
	LAND	LANDSCAPE EASEMENT
	R&RES	REMOVE & RESET
	R&REP	REMOVE & REPLACE
	SR	SLOPE RIGHT
	UE	UTILITY EASEMENT
	(P)	PERMANENT EASEMENT
	(T)	TEMPORARY EASEMENT
■	BNDNS	BOUND SET
⧈	BNDNS	BOUND TO BE SET
◎	IPNF	IRON PIN FOUND
●	IPNS	IRON PIN TO BE SET
⊠	CALC	EXISTING ROW POINT
○	PROW	PROPOSED ROW POINT
[LENGTH]		LENGTH CARRIED ON NEXT SHEET

COMMON TOPOGRAPHIC POINT SYMBOLS

POINT	CODE	DESCRIPTION
	APL	BOUND APPARENT LOCATION
	BM	BENCHMARK
	BND	BOUND
	CB	CATCH BASIN
	COMB	COMBINATION POLE
	DITHR	DROP INLET THROATED DNC
	EL	ELECTRIC POWER POLE
	FPOLE	FLAGPOLE
	GASFIL	GAS FILLER
	GP	GUIDE POST
	GSO	GAS SHUT OFF
	GUY	GUY POLE
	GUYW	GUY WIRE
	GV	GATE VALVE
	H	TREE HARDWOOD
	HCTRL	CONTROL HORIZONTAL
	HVCTRL	CONTROL HORIZ. & VERTICAL
	HYD	HYDRANT
	IP	IRON PIN
	IPIPE	IRON PIPE
	LI	LIGHT - STREET OR YARD
	MB	MAILBOX
	MH	MANHOLE (MH)
	MM	MILE MARKER
	PM	PARKING METER
	PMK	PROJECT MARKER
	POST	POST STONE/WOOD
	RRSIG	RAILROAD SIGNAL
	RRSL	RAILROAD SWITCH LEVER
	S	TREE SOFTWOOD
	SAT	SATELLITE DISH
	SHRUB	SHRUB
	SIGN	SIGN
	STUMP	STUMP
	TEL	TELEPHONE POLE
	TIE	TIE
	TSIGN	SIGN W/DOUBLE POST
	VCTRL	CONTROL VERTICAL
	WELL	WELL
	WSO	WATER SHUT OFF

THESE ARE COMMON VAOT SURVEY POINT SYMBOLS FOR EXISTING FEATURES, ALSO USED FOR PROPOSED FEATURES WITH HEAVIER LINEWEIGHT, IN COMBINATION WITH PROPOSED ANNOTATION.

PROPOSED GEOMETRY CODES

CODE	DESCRIPTION
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
CC	CENTER OF CURVE
PT	POINT OF TANGENCY
PCC	POINT OF COMPOUND CURVE
PRC	POINT OF REVERSE CURVE
POB	POINT OF BEGINNING
POE	POINT OF ENDING
STA	STATION PREFIX
AH	AHEAD STATION SUFFIX
BK	BACK STATION SUFFIX
D	CURVE DEGREE OF (100FT)
R	CURVE RADUIS OF
T	CURVE TANGENT LENGTH
L	CURVE LENGTH OF
E	CURVE EXTERNAL DISTANCE

UTILITY SYMBOLOGY

UNDERGROUND UTILITIES

- UTILITY (GENERIC-UNKNOWN)
- UT — TELEPHONE
- UE — ELECTRIC
- UC — CABLE (TV)
- UEC — ELECTRIC+CABLE
- UET — ELECTRIC+TELEPHONE
- UCT — CABLE+TELEPHONE
- UECT — ELECTRIC+CABLE+TELEP.
- G — GAS LINE
- W — WATER LINE
- S — SANITARY SEWER (SEPTIC)

ABOVE GROUND UTILITIES (AERIAL)

- UTILITY (GENERIC-UNKNOWN)
- T — TELEPHONE
- E — ELECTRIC
- C — CABLE (TV)
- EC — ELECTRIC+CABLE
- ET — ELECTRIC+TELEPHONE
- AER E&T — ELECTRIC+TELEPHONE
- CT — CABLE+TELEPHONE
- ECT — ELECTRIC+CABLE+TELEP.
- UTILITY POLE GUY WIRE

PROJECT CONSTRUCTION SYMBOLOGY

PROJECT DESIGN & LAYOUT SYMBOLOGY

- CZ — CLEAR ZONE
- PLAN LAYOUT MATCHLINE

PROJECT CONSTRUCTION FEATURES

- TOP OF CUT SLOPE
- TOE OF FILL SLOPE
- STONE FILL
- BOTTOM OF DITCH ℄
- CULVERT PROPOSED
- STRUCTURE SUBSURFACE
- PDF — PDF — PROJECT DEMARCATION FENCE
- BF — BF — BARRIER FENCE
- TREE PROTECTION ZONE (TPZ)
- STRIPING LINE REMOVAL
- SHEET PILES

CONVENTIONAL BOUNDARY SYMBOLOGY

BOUNDARY LINES

- TOWN LINE — TOWN BOUNDARY LINE
- COUNTY LINE — COUNTY BOUNDARY LINE
- STATE LINE — STATE BOUNDARY LINE
- PROPOSED STATE R.O.W. (LIMITED ACCESS)
- PROPOSED STATE R.O.W.
- STATE ROW (LIMITED ACCESS)
- STATE ROW
- TOWN ROW
- PERMANENT EASEMENT LINE (P)
- TEMPORARY EASEMENT LINE (T)
- SURVEY LINE
- P/L — PROPERTY LINE (P/L)
- SR SR SR — SLOPE RIGHTS
- 6f — 6f — 6F PROPERTY BOUNDARY
- 4f — 4f — 4F PROPERTY BOUNDARY
- HAZ — HAZ — HAZARDOUS WASTE

EPSC LAYOUT PLAN SYMBOLOGY

EPSC MEASURES

- FILTER CURTAIN
- SILT FENCE
- SILT FENCE WOVEN WIRE
- CHECK DAM
- DISTURBED AREAS REQUIRING RE-VEGETATION
- EROSION MATTING

SEE EPSC DETAIL SHEETS FOR ADDITIONAL SYMBOLOGY

ENVIRONMENTAL RESOURCES

- WETLAND BOUNDARY
- RIPARIAN BUFFER ZONE
- WETLAND BUFFER ZONE
- SOIL TYPE BOUNDARY
- T&E — THREATENED & ENDANGERED SPECIES
- HAZ — HAZ — HAZARDOUS WASTE AREA
- AG — AGRICULTURAL LAND
- HABITAT — FISH & WILDLIFE HABITAT
- FLOOD PLAIN — FLOOD PLAIN
- OHW — ORDINARY HIGH WATER (OHW)
- STORM WATER
- USDA FOREST SERVICE LANDS
- WILDLIFE HABITAT SUIT/CONN

ARCHEOLOGICAL & HISTORIC

- ARCH — ARCHEOLOGICAL BOUNDARY
- HISTORIC DIST — HISTORIC DISTRICT BOUNDARY
- HISTORIC — HISTORIC AREA
- (H) HISTORIC STRUCTURE

CONVENTIONAL TOPOGRAPHIC SYMBOLOGY

EXISTING FEATURES

- ROAD EDGE PAVEMENT
- ROAD EDGE GRAVEL
- DRIVEWAY EDGE
- DITCH
- FOUNDATION
- FENCE (EXISTING)
- FENCE WOOD POST
- FENCE STEEL POST
- GARDEN
- ROAD GUARDRAIL
- RAILROAD TRACKS
- CULVERT (EXISTING)
- STONE WALL
- WALL
- WOOD LINE
- BRUSH LINE
- HEDGE
- BODY OF WATER EDGE
- LEDGE EXPOSED

PROJECT NAME: SWANTON - ST. JOHNSBURY
PROJECT NUMBER: STP LVRT(10)

FILE NAME: z20f232legend_sheet.dgn
PROJECT LEADER: E.P. DETRICK
DESIGNED BY: VTRANS
CONVENTIONAL SYMBOLOGY LEGEND SHEET

PLOT DATE: 6/2/2021
DRAWN BY: VTRANS
CHECKED BY: VTRANS
SHEET 3 OF 99

PROJECT NOTES

GENERAL

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 2018, AND ITS LATEST REVISIONS, THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 8TH EDITION, AND ITS LATEST REVISIONS, THE AASHTO LRFD GUIDE SPECIFICATIONS FOR DESIGN OF PEDESTRIAN BRIDGES 2ND EDITION, AND MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES 2009 EDITION AND ITS LATEST REVISIONS.

2. ALL DIMENSIONS ARE HORIZONTAL OR VERTICAL, AND ARE GIVEN AT 68 DEGREES FAHRENHEIT, UNLESS NOTED OTHERWISE.

3. PER AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES (ADAAG), PATH CROSS SLOPES SHALL NOT EXCEED 2%.

4. ALL WORK AND ANY ASSOCIATED ACTIVITY ON THIS PROJECT SHALL BE PERFORMED WITHIN THE EXISTING RIGHT-OF-WAY LIMITS UNLESS OTHERWISE NOTED.

5. ITEM 529.20, "PARTIAL REMOVAL OF STRUCTURE" AND ITEM 529.15, "REMOVAL OF STRUCTURE" SHALL INCLUDE THE COMPLETE REMOVAL AND DISPOSAL OF THE EXISTING BRIDGE SUBSTRUCTURE AND SUPERSTRUCTURE EXCEPT AS NOTED IN THESE PLANS. THIS SHALL INCLUDE BUT IS NOT LIMITED TO ALL BRIDGE RAILINGS, RAILROAD TRACKS, TIMBER PILE PIERS, BEARINGS, ANCHOR BOLTS, STEEL GIRDERS, TIMBER RAIL TIES, AND SUBSTRUCTURE ELEMENTS TO THE LIMITS SHOWN ON THE PLANS OR TO THE SATISFACTION OF THE ENGINEER.

6. THE EXISTING STRUCTURAL STEEL MAY BE PAINTED WITH A MATERIAL THAT CONTAINS LEAD. THE CONTRACTOR SHALL FOLLOW ALL APPLICABLE REGULATIONS WHEN HANDLING AND WORKING WITH THIS STEEL. ANY REMOVED STRUCTURAL STEEL, IF APPLICABLE, IS THE PROPERTY OF THE CONTRACTOR. THE CONTRACTOR SHALL INDEMNIFY AND HOLD THE STATE AND ITS OFFICERS AND EMPLOYEES HARMLESS CONCERNING THE CONTRACTOR'S USE OR DISPOSITION OF THE REMOVED EXISTING STRUCTURAL STEEL.

7. CONSTRUCTION LOAD SURCHARGE FROM HEAVY EQUIPMENT OR STOCKPILED MATERIALS ARE NOT PERMITTED AGAINST SUBSTRUCTURES OR RETAINING WALLS. ALL CONSTRUCTION LOADS, WITH THE EXCEPTION OF A PLATE COMPACTOR, SHALL MAINTAIN AN ADEQUATE DISTANCE, BASED ON THE DEPTH OF THE BOTTOM OF THE STRUCTURE, FROM THE BACK OF THE ABUTMENT OR WINGWALL SO THAT NO CONSTRUCTION SURCHARGE LOAD IS EXERTED ON THE SUBSTRUCTURE ELEMENT. IF CONSTRUCTION LOADS RESULTING IN A SURCHARGE ON THE ABUTMENTS OR WINGWALLS ARE REQUIRED, THE CONTRACTOR MAY CONTACT THE ENGINEER AND PROVIDE ANTICIPATED LOADS TO DETERMINE THE DISTANCE THAT IS REQUIRED TO BE MAINTAINED FROM THE BACK OF THE ABUTMENT OR WINGWALL. FOR THE ABUTMENTS TO BE DESIGNED BY THE CONTRACTOR (SEE ABUTMENTS ON PILES NOTES) IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR'S ENGINEER TO DETERMINE THE DISTANCE THAT IS REQUIRED FROM THE BACK OF THE ABUTMENT OR WINGWALL TO THE CONSTRUCTION SURCHARGE LOAD.

TRAIL ACCESS

8. ACCESS TO THE TRAIL SHALL BE FROM PUBLIC CROSSINGS. ACCESS FROM TOWN HIGHWAYS SHALL BE PERMITTED IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS:
   a. ROAD CLOSURES OR STOPPING TRAFFIC SHALL NOT BE PERMITTED WITHOUT PRIOR APPROVAL BY THE ENGINEER.
   b. THE CONTRACTOR SHALL REPAIR ANY DAMAGE TO ROADS, DITCHES, SHOULDERS, ETC. AND RESTORE THEM TO PRE-CONSTRUCTION CONDITIONS AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR AND THE ENGINEER SHALL VERIFY PRE-CONSTRUCTION CONDITIONS.

TIMBER

9. SEE SPECIAL PROVISION (PREFABRICATED MULTI-MODAL BRIDGE) FOR LUMBER AND TIMBER PRESERVATIVES AND TREATMENT.

CONCRETE

10. ALL CAST-IN-PLACE CONCRETE SHALL CONFORM TO SPECIAL PROVISION (CONCRETE, HIGH PERFORMANCE, CLASS B).

11. WITH THE EXCEPTION OF REINFORCING STEEL FOR THE BRIDGE 77 ABUTMENTS, ALL REINFORCING STEEL SHALL BE LEVEL I, EPOXY COATED. REINFORCING STEEL FOR BRIDGE 77 ABUTMENTS SHALL BE LEVEL I, PLAIN. ALL REINFORCING STEEL SHALL MEET THE REQUIREMENTS OF SECTION 507 AND SHALL BE PAID FOR UNDER EITHER ITEM 507.11, "REINFORCING STEEL, LEVEL I (PLAIN)" OR ITEM 507.11, "REINFORCING STEEL, LEVEL I (EPOXY COATED).

12. MINIMUM COVER FOR REINFORCING STEEL SHALL BE 3", UNLESS OTHERWISE NOTED.

13. REINFORCING STEEL PLACEMENT TOLERANCES SHALL BE

SPACING	+/- 1"
CLEARANCE	+/- ¼"

14. THE CONTRACTOR AND PREFABRICATED BRIDGE MANUFACTURER AFTER FINAL APPROVAL OF THE PREFABRICATED BRIDGE BEARINGS SHALL PROVIDE THE LOADS ON THE ANCHOR BOLTS TO THE ENGINEER. THE ENGINEER WILL VERIFY THAT THE MINIMUM ANCHOR BOLT SIZE SPECIFIED BELOW IS ADEQUATE TO SUPPORT THOSE LOADS. IF NOT, THEN THE ENGINEER WILL DESIGN THE ANCHOR BOLTS BASED ON THE LOADINGS PROVIDED BY THE CONTRACTOR AND PROVIDE THE ANCHOR BOLT DESIGN TO THE CONTRACTOR FOR THEIR USE. THE COST FOR THE ANCHOR BOLTS AND COORDINATION WITH THE ENGINEER WILL BE INCIDENTAL TO ITEM 900.645, SPECIAL PROVISION (ABUTMENT ON PILES) OR 900.608 SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, CLASS B), AS APPROPRIATE. THE CONTRACTOR CAN USE THE FOLLOWING INFORMATION FOR BEARING ANCHOR BOLT ESTIMATION, SUBJECT TO FINAL DESIGN:

- MIN. ANCHOR BOLT SIZE: 24" LONG x 1-1/2" DIAMETER STRAIGHT, FULLY THREADED, WITH 2 HEAVY HEX NUTS AND A WASHER.
- MATERIAL: ASTM F1554 GR. 105, GALVANIZED
- BEARING ANCHOR BOLT QUANTITY: 8 PER BRIDGE

15. THE BEARING ANCHOR BOLTS SHALL BE CAST INTO THE ABUTMENT STEMS.

16. SURFACES OF BRIDGE SEATS UNDER BEARING DEVICES SHALL BE LEVEL. ALL OTHER BRIDGE SEAT AREAS SHALL BE SLOPED WITH A 1" WASH TOWARDS MID-SPAN. THE ENTIRE BRIDGE SEAT SURFACE SHALL BE SMOOTH STEEL TROWEL FINISHED.

17. WATER REPELLENT, SILANE SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES.

18. ALL EXPOSED EDGES SHALL BE CHAMFERED 1"x1".

TEMPORARY BRIDGE

19. A TEMPORARY BRIDGE SHALL BE INSTALLED AT BRIDGE 77 AS IDENTIFIED IN THE CONTRACT DOCUMENTS. VTRANS WILL SUPPLY THE TEMPORARY BRIDGE FOR CONTRACTOR PER SPECIAL PROVISION (INSTALLATION OF TEMPORARY BRIDGE)

PREFABRICATED MULTI-MODAL BRIDGE

20. THE COST OF THE DESIGN, FABRICATION, SHIPPING, AND INSTALLATION OF THE BRIDGE, SACRIFICIAL LONGITUDINAL DECKING, AND BEARINGS SHALL BE INCIDENTAL TO ITEM 900.645 "SPECIAL PROVISION (PREFABRICATED MULTI-MODAL BRIDGE)".

21. DESIGN REQUIREMENTS:
   a. MINIMUM PEDESTRIAN RAILING HEIGHT IS 4'-6"
   b. TWELVE (12) FOOT CLEAR WIDTH BETWEEN BRIDGE HAND RAILING
   c. 4" TREATED TIMBER DECK
   d. 3" TREATED SACRIFICIAL LONGITUDINAL DECKING
   e. THE TABLE BELOW LISTS THE PREFABRICATED MULTI-MODAL BRIDGE STRUCTURES, THEIR LOCATIONS, AND DESIGN PARAMETERS. THE BRIDGE AND ITS COMPONENTS SHALL BE DESIGNED FOR A LIVE LOAD OF 60 PSF SNOW LOAD, OR 90 PSF PEDESTRIAN LOAD, OR THE DESIGN LIVE LOAD LISTED IN THE TABLE BELOW, WHICHEVER IS GREATER.

BRIDGE #	CROSSING	TOWN	SPAN LENGTH (FT)	DESIGN LL	DECK TYPE	STEEL COATING
A27	VT 15	WALDEN	150	H10/PED	TIMBER	GALVANIZED
34	STANNARD MTN RD & STANNARD BROOK	HARDWICK	105	H10/PED	TIMBER	GALVANIZED
35	LAMOILLE RIVER	GREENSBORO	123	H10/PED	TIMBER	WEATHERING STEEL
48	LAMOILLE RIVER	WOLCOTT	149	H10/PED	TIMBER	WEATHERING STEEL
83	BLACK CREEK	FAIRFIELD	146	H10/PED	TIMBER	WEATHERING STEEL

22. THE 3" TREATED SACRIFICIAL WEARING SURFACE SHALL FASTENED TO THE WOOD DECKING WITH WOOD SCREWS AS IT WILL NEED TO BE REPLACED AS PART OF NORMAL MAINTENANCE ACTIVITIES.

23. FABRICATION DRAWINGS SHALL BE SUBMITTED IN ACCORDANCE WITH SECTION 105.03 AND SHALL INCLUDE AN ASSEMBLY PLAN WITH TEMPORARY BRACING REQUIREMENTS AS REQUIRED FOR ERECTION AND INSTALLATION. ALL COSTS SHALL BE INCIDENTAL TO THE PREFABRICATED MULTI-MODAL BRIDGE ITEM. SEE ADDITIONAL REQUIREMENTS IN THE PROJECT SPECIAL PROVISION FOR ITEM 900.645 "SPECIAL PROVISION (PREFABRICATED MULTI-MODAL BRIDGE)".

ABUTMENTS ON PILES

24. ABUTMENT NO. 1 ON BRIDGE 48 AND ABUTMENT NO. 1 ON BRIDGE 83 SHALL BE SUPPORTED ON STEEL H-PILES.

25. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DESIGN THE STEEL H-PILES AND THE CAST-IN-PLACE CONCRETE ABUTMENTS SUPPORTED ON THOSE PILES. THIS WORK SHALL INCLUDE ADDITIONAL GEOTECHNICAL INVESTIGATIONS AS REQUIRED AND DESIGN CALCULATIONS AND WORKING DRAWINGS FOR REVIEW BY THE ENGINEER AND FOR USE BY THE CONTRACTOR FOR THE INSTALLATION AND CONSTRUCTION OF THESE SUBSTRUCTURES. SEE THE "CONCRETE ABUTMENT ON PILES" SPECIAL PROVISION FOR ADDITIONAL INFORMATION.

MECHANICALLY STABILIZED EARTH (MSE) RETAINING WALLS

26. THE DESIGN, CONSTRUCTION, HANDLING, AND ASSEMBLY OF THE MECHANICALLY STABILIZED EARTH (MSE) RETAINING WALLS SHALL BE IN ACCORDANCE WITH THE SPECIAL PROVISIONS. HANDLING AND INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AS APPLICABLE.

27. THE MECHANICALLY STABILIZED EARTH (MSE) RETAINING WALLS SHALL BE DESIGNED BY THE FABRICATOR IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS REFERENCED IN PROJECT NOTE 1 AND USING THE PROVISIONS OF AASHTO LRFD SECTION 11.10 - MECHANICALLY STABILIZED EARTH WALLS.

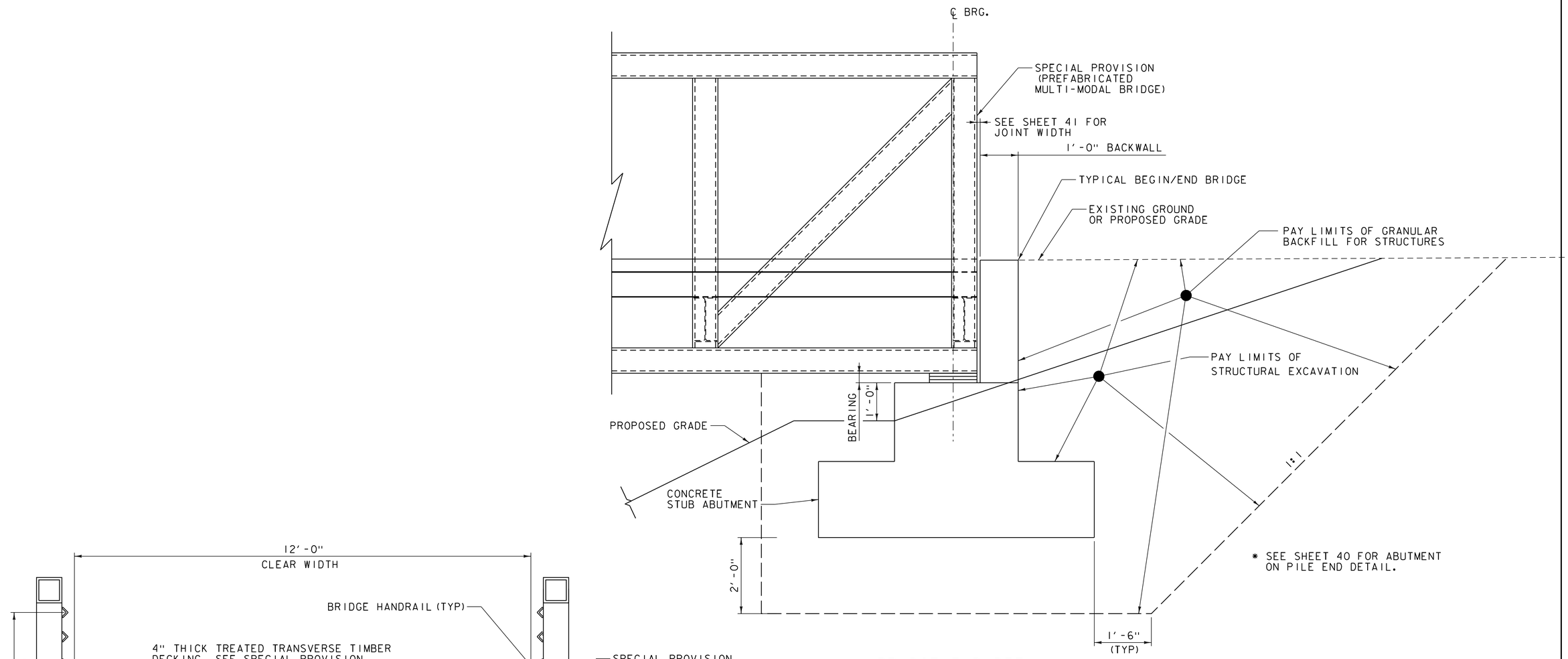
28. DESIGN VALUES:
   a. FACTORED BEARING RESISTANCE AT STRENGTH LIMIT STATE
      i. ABUTMENT 1 = 10KSF (STRIP LENGTH = 12.4 FEET)
      ii. ABUTMENT 2 = 13KSF (STRIP LENGTH = 12.8 FEET)
   b. BEARING RESISTANCE FACTOR = 0.65
   c. MINIMUM REINFORCING STRIP LENGTHS (H = HEIGHT OF WALL)
      i. ABUTMENT 1 = 1.15H
      ii. WINGWALLS 1 AND 2 = 0.7H
      iii. ABUTMENT 2 = GREATER OF 1.3H OR 12.8 FEET
      iv. WINGWALLS 3 AND 4 = 10.5 FEET OR A MINIMUM 1FT OVERLAP BETWEEN WINGWALL REINFORCEMENT
   d. SLIDING COEFFICIENT = 0.55
   e. RESISTANCE FACTOR FOR SLIDING = 0.80
   f. WALL DESIGN SHALL INCLUDE DRAINAGE PROVISIONS TO PREVENT HYDROSTATIC PRESSURE BEHIND WALL

vhb

PROJECT NAME: SWANTON - ST. JOHNSBURY
PROJECT NUMBER: STP LVRT(10)

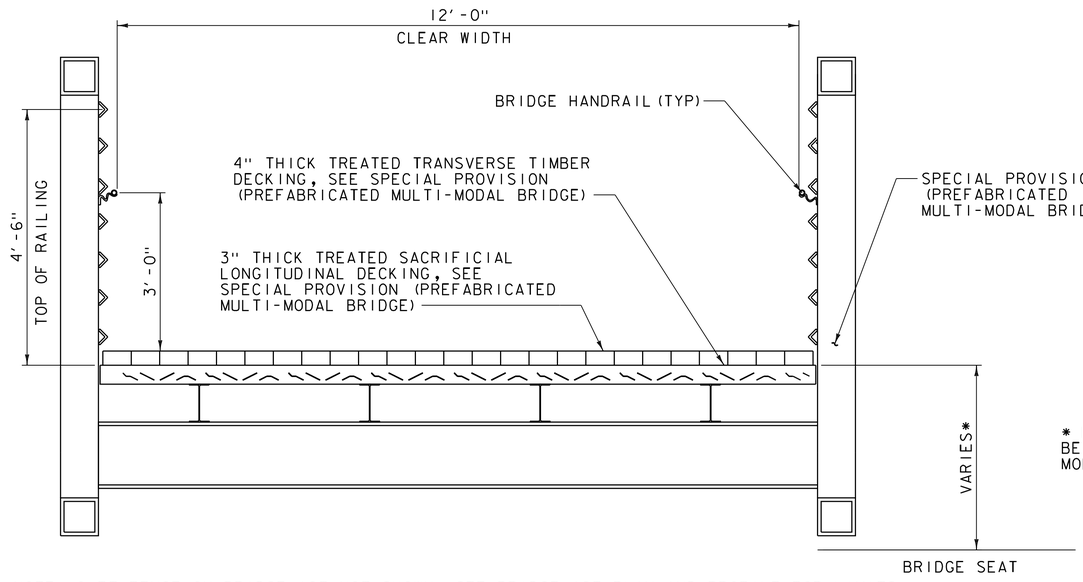
FILE NAME: z20f232pn.dgn
PROJECT LEADER: E.P. DETRICK
DESIGNED BY: B.O. CRONIN
PROJECT NOTES SHEET

PLOT DATE: 6/2/2021
DRAWN BY: K.C. BARRY
CHECKED BY: E.P. DETRICK
SHEET 4 OF 99



BRIDGE END DETAIL

SCALE 3/4"=1'-0"



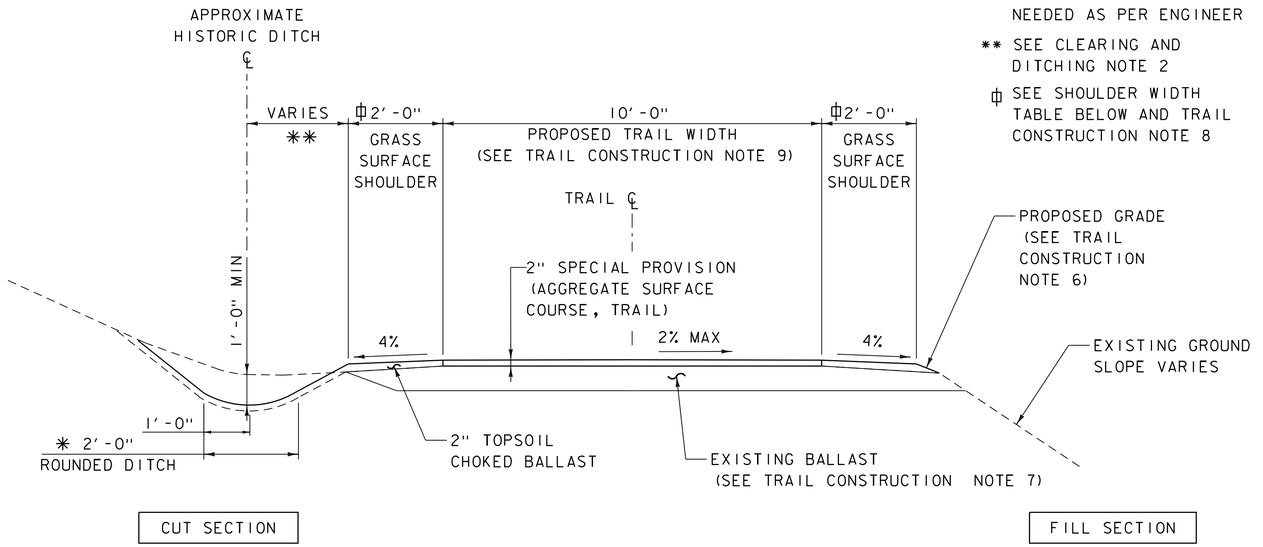
* DEPTH TO BRIDGE SEAT TO BE DETERMINED BY MULTI-MODAL BRIDGE FABRICATOR

NOTE: 8-FT FENCE ON BRIDGE A27 NOT SHOWN. SEE BRIDGE A27 PLAN AND PROFILE FOR LIMITS.

PREFABRICATED MULTI-MODAL BRIDGE TYPICAL SECTION

SCALE 3/4"=1'-0"

PROJECT NAME:	SWANTON - ST. JOHNSBURY
PROJECT NUMBER:	STP LVRT(10)
FILE NAME: z20f232typ.dgn	PLOT DATE: 6/2/2021
PROJECT LEADER: E.P. DETRICK	DRAWN BY: S.E. GEARY
DESIGNED BY: W.P. RAUSEO	CHECKED BY: J.D. KEENER
TYPICAL SECTIONS	SHEET 8 OF 99



* EXCEPT WHERE DITCHES NOT NEEDED AS PER ENGINEER

** SEE CLEARING AND DITCHING NOTE 2

Φ SEE SHOULDER WIDTH TABLE BELOW AND TRAIL CONSTRUCTION NOTE 8

TRAIL TYPICAL APPROACH SECTION

NOT TO SCALE

SHOULDER WIDTH TABLE

SIDE SLOPE	SHOULDER WIDTH	
	MIN.	PREFERRED
< 1:4	1′-0"	2′-0"
1:3	1′-0"	3′-0"
1:2	1′-0"	5′-0"
> 1:2	1′-0"	5′-0"

TRAIL CONSTRUCTION NOTES:

1. IF THE EXISTING RAIL BED HAS ANY WASHOUTS OR HOLES, THEY SHALL BE FILLED WITH GRANULAR BORROW TO THE REQUIRED ELEVATION FOR THE INSTALLATION OF 2" OF SPECIAL PROVISION (AGGREGATE SURFACE COURSE, TRAIL).
2. CHOKE EXISTING OPEN GRADED BALLAST WITH GRANULAR MATERIAL, AND COMPACT WITH VIBRATOR ROLLER IN ACCORDANCE WITH ITEM 900.640, "SPECIAL PROVISION (CHOKING BALLAST)".
3. ENTIRE TRAIL SURFACE SHALL BE BANKED 2% TO THE INSIDE OF CURVES. TRAIL SHALL OTHERWISE BE GRADED TO DRAIN OR SLOPED TO ONE SIDE IN FLAT AREAS WITH 2% CROSS SLOPE MAXIMUM.
4. EDGE OF SIGN POSTS SHALL BE NO CLOSER THAN 2′ AND NO FURTHER THAN 5′ FROM THE EDGE OF TRAIL.
5. THE CONTRACTOR SHALL REMOVE RAILROAD TIES AND RAIL FROM BALLAST AND DISPOSE OF BY METHODS APPROVED BY THE VERMONT AGENCY OF NATURAL RESOURCES. REMOVAL OF TIES AND RAIL WILL BE PAID FOR UNDER ITEM 201.10 "CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS".
6. IV:4H IS THE PREFERRED FILL SIDE SLOPE UNLESS THE FILL EXTENDS BEYOND THE CLEARING LIMITS, IN WHICH CASE STEEPER SLOPES SHALL BE USED.
7. IF THE EXISTING RAIL BED LACKS 8" OF SALVAGEABLE BALLAST OR WELL DRAINED GRANULAR MATERIAL, GRANULAR BORROW SHALL BE ADDED TO ACHIEVE THE REQUIRED 8" BASE.
8. THE PREFERRED SHOULDER DIMENSIONS SHALL BE USED UNLESS CONSTRAINED BY THE WIDTH OF THE EXISTING RAIL BED AND STEEP SIDE SLOPES. SHOULDER WIDTHS BELOW THE PREFERRED WIDTH SHALL BE USED WHEN DIRECTED BY THE ENGINEER. CERTAIN EXISTING RAIL BED WIDTHS AND SIDE SLOPE CONDITIONS MAY WARRANT SHOULDER WIDTHS BELOW THE MINIMUM WIDTHS SHOWN.
9. THE PROPOSED TRAIL WIDTH WILL BE 10′-0" AS SHOWN IN THE PLANS. FOR BRIDGE 34, THE TRAIL SECTION SHALL BE 12′-0" WIDE AS SHOWN ON THE WASTE BLOCK RETAINING WALL SHEETS IMMEDIATELY ADJACENT TO THE BRIDGE. THE CONTRACTOR SHALL SMOOTHLY TRANSITION BETWEEN TRAIL WIDTHS.
10. REMOVE LOOSE VEGETATION, SILT, AND DEBRIS FROM BALLAST SURFACE PRIOR TO SCARIFYING AND WINDROWING BALLAST. CONTAIN BALLAST WITHIN RAIL BED. SCARIFY AND WINDROW BALLAST TO A DEPTH OF 8" REPEATEDLY TO BREAK UP ROOT MAT AND EXPOSE SCRAP METAL. REMOVE METAL, ROOTS, STUMPS, DEBRIS, AND LARGE ROCKS. THEN GRADE AND ROLL TO COMPACT BALLAST.
11. REMOVAL OF LOOSE VEGETATION, SILT AND DEBRIS FROM THE BALLAST SURFACE, SCARIFYING AND WINDROWING THE BALLAST TO A DEPTH OF 8", FOLLOWED BY THE REMOVAL OF METAL, ROOTS, STUMPS, DEBRIS AND LARGE ROCKS WILL BE PAID FOR UNDER ITEM 900.640, "SPECIAL PROVISION (WINDROWING BALLAST)".
12. BALLAST GRADING AND ROLLER COMPACTION WILL BE PAID FOR UNDER ITEM 900.645, "SPECIAL PROVISION (BALLAST SHAPING AND GRADING)".

CLEARING AND DITCHING NOTES:

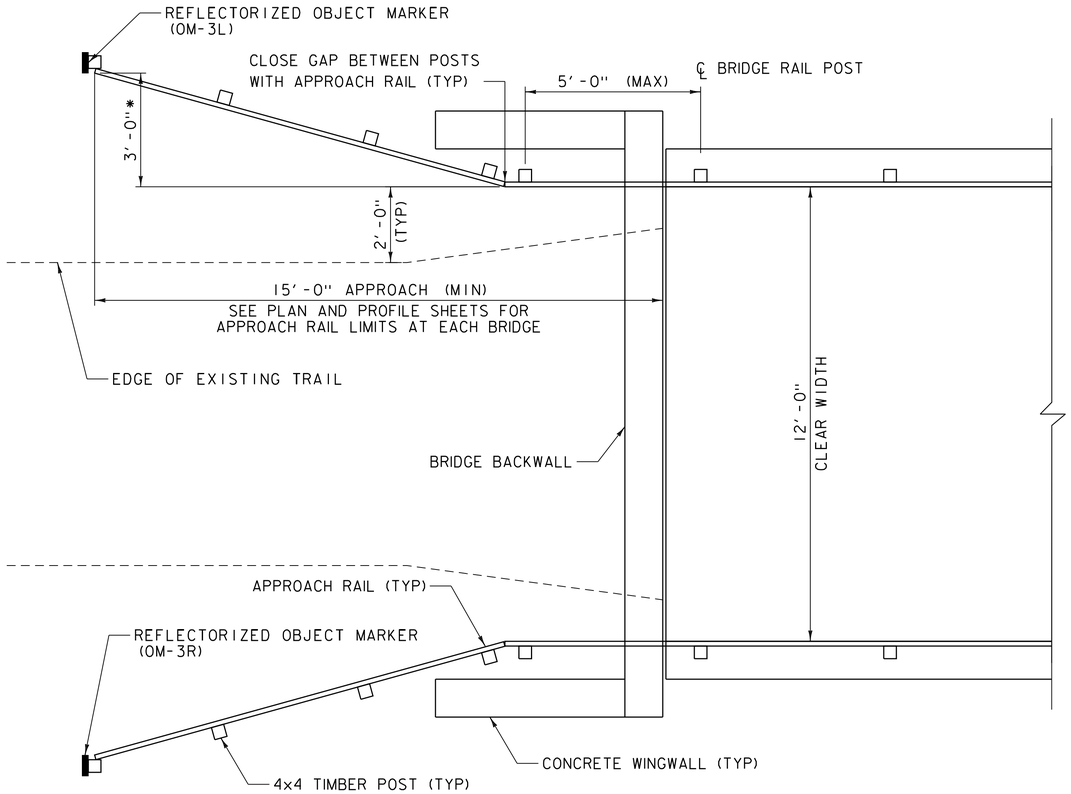
1. CLEARING LIMIT ON EMBANKMENT SLOPES STEEPER THAN IV:2H SHALL NOT BE MORE THAN 1′-0" BEYOND THE TOP OF SLOPE. ACTUAL CLEARING LIMITS SHALL BE MARKED IN THE FIELD BY THE ENGINEER. IN ROCK CUT AREAS, CLEAR THE WIDTH OF THE BALLAST AND DITCHES ALONG WITH ANY OVERHANGING VEGETATION. DO NOT CLEAR OR DAMAGE HEALTHY TREES GREATER THAN 5" IN DIAMETER ON STEEP EMBANKMENTS OFF THE EDGE OF THE BALLAST UNLESS WITHIN 1′-0" OF THE BALLAST. DO NOT REMOVE ROOTS OR STUMPS ON SLOPES. PRUNE BRANCHES WITHIN CLEARING LIMITS AND REMOVE DEAD TREES 3′-0" BEYOND THE TOP OF SLOPE. CLEARING WILL BE PAID UNDER ITEM 201.10 "CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS".
2. RE-ESTABLISH APPROXIMATE HISTORIC DITCHES. ACTUAL DITCH OFFSET AND BOTTOM ELEVATION SHALL BE SET IN THE FIELD BY THE ENGINEER. SALVAGE CLEAN BALLAST FROM DITCHES TO RAIL BED. DITCH EXCAVATION DEPTH VARIES TO ACCOMMODATE HISTORIC LOCATIONS, BACK SLOPES, DITCH PROFILE, AND CROSS CULVERT INVERT ELEVATIONS. DITCHING WORK WILL BE PAID UNDER ITEM 900.640, "SPECIAL PROVISION (DITCHING)".
3. IN WETLANDS OR ON BANKS OF WATER BODIES DO NOT CLEAR PAST THE EDGE OF BALLAST OR TOP OF BANK, OR OTHER LIMITS SET BY PERMIT CONDITIONS.
4. ON BALLASTED TRAIL SHOULDERS AND DITCHES, REMOVE ALL TREES, BRUSH, WEEDS, LEAVES, BRANCHES, TRASH, ROOTS, STUMPS; TOPSOIL MAY BE SALVAGED FOR THE USE ON TRAIL GRASS SURFACE.
5. ON LATERAL DITCHES OR SHOULDERS, CLEAR CUT AND REMOVE ALL TREES, BRUSH, WEEDS, LEAVES, BRANCHES TO WITHIN 4" OF SOIL SURFACE.
6. ORGANIC MATERIAL THAT HAS BEEN CHIPPED, GROUND, OR MULCHED MAY REMAIN. IF IT IS TO REMAIN THEN SPREAD EVENLY ON SHOULDERS AND ADJACENT R.O.W. LAND. REMOVE AND LEGALLY DISPOSE OF ANY TRASH AND DEBRIS OFF SITE. THE COST OF DISPOSAL OF TRASH AND DEBRIS SHALL BE INCIDENTAL TO ALL CONTRACT ITEMS.
7. ANY ADDITIONAL CLEARING REQUIRED TO PERFORM THIS WORK SHALL BE INCIDENTAL TO ALL CONTRACT ITEMS.

vhb

PROJECT NAME: SWANTON - ST. JOHNSBURY
PROJECT NUMBER: STP LVRT(10)

FILE NAME: z20f232typ.dgn
PROJECT LEADER: S.E. BURBANK
DESIGNED BY: K.C. BARRY
TYPICAL TRAIL SECTIONS

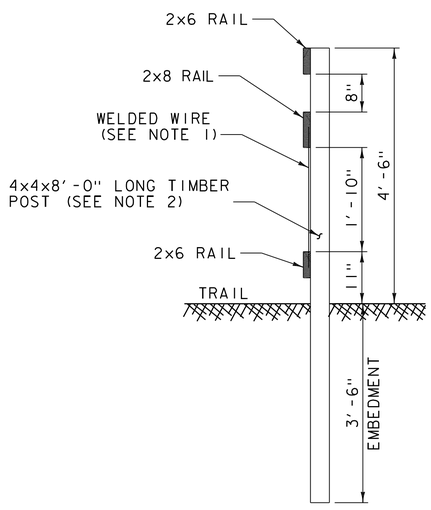
PLOT DATE: 6/2/2021
DRAWN BY: K.C. BARRY
CHECKED BY: B.O. CRONIN
SHEET 9 OF 99



TYPICAL APPROACH RAIL

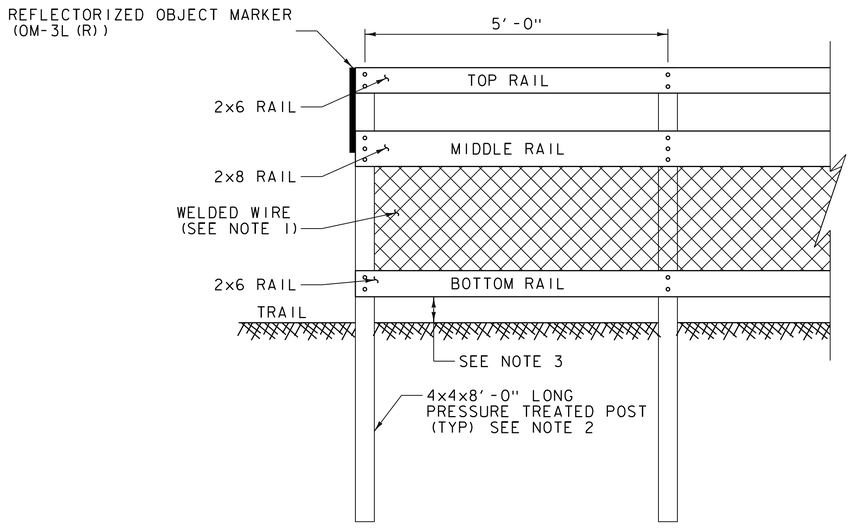
NOT TO SCALE

* A 3'-0" OFFSET SHALL BE USED WHEN THERE IS ADEQUATE TRAIL WIDTH TO ACHIEVE THIS OFFSET. LESSER OFFSETS ARE ACCEPTABLE WHERE TRAIL WIDTHS DO NOT PERMIT A 3'-0" OFFSET. OFFSET DISTANCE SHALL BE APPROVED BY THE ENGINEER.



APPROACH RAIL SECTION

NOT TO SCALE



APPROACH RAIL ELEVATION

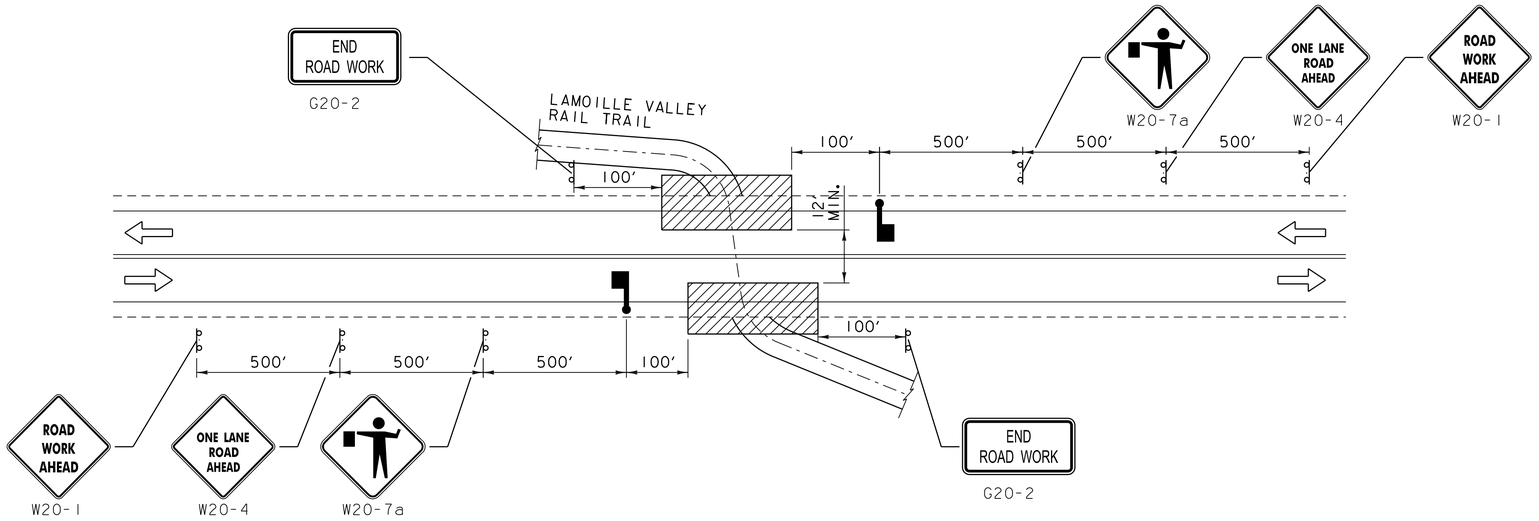
NOT TO SCALE

NOTES:

1. THE WELDED WIRE SHALL BE VINYL COATED, 2"x4" 11 GAUGE, BLACK.
2. WOODEN POSTS AND RAILS SHALL BE PRESSURE TREATED AND MEET THE REQUIREMENTS OF ITEM 522.25, "STRUCTURAL LUMBER AND TIMBER, TREATED".
3. THE TOP, MIDDLE, AND BOTTOM RAIL ARE TO BE SET AT THE SAME SLOPE AS THE TRAIL PROFILE GRADE AT THE EDGE OF THE TRAIL. IF THE OPENING BELOW THE BOTTOM RAIL EXCEEDS SIX (6) INCHES, THEN A FOURTH RAIL, 2x6 PRESSURE TREATED RAIL, SHALL BE INSTALLED UNDER THE BOTTOM RAIL. THE MAXIMUM CLEAR DISTANCE BETWEEN THE BOTTOM RAIL AND THE FOURTH RAIL SHALL BE 5⅛".
4. THE TOP AND BOTTOM RAILS ARE TO BE ATTACHED TO THE POSTS WITH TWO ½" DIA. GALVANIZED CARRIAGE BOLTS WITH A ¾" WASHER UNDER THE NUT. THREE ½" DIA. GALVANIZED CARRIAGE BOLTS WITH A ¾" WASHER UNDER THE NUT SHALL BE USED FOR CONNECTING THE MIDDLE RAIL TO POST. ALL CARRIAGE BOLTS SHALL BE ASTM A307.
5. ALL COSTS ASSOCIATED WITH FABRICATING AND INSTALLING THE APPROACH/GUARD RAIL SHALL BE INCLUDED IN ITEM 900.640, "SPECIAL PROVISION (APPROACH RAIL, PRESSURE TREATED)".
6. PRESSURE TREATED RAIL CAN BE CANTILEVERED A MAX. OF 2'-0" BEYOND THE END OF POST.
7. ALL LUMBER TO BE DRESSED LUMBER. DIMENSIONS SHOWN ARE NOMINAL.

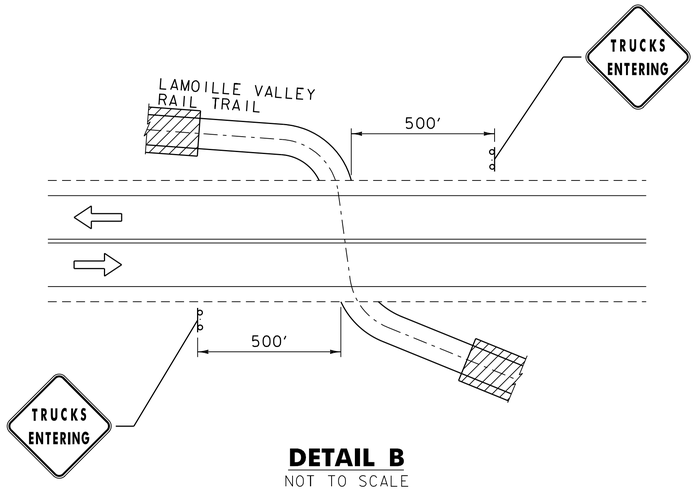
PROJECT NAME:	SWANTON - ST. JOHNSBURY
PROJECT NUMBER:	STP LVRT(10)

FILE NAME: z20f232approach_rail.dgn	PLOT DATE: 6/2/2021
PROJECT LEADER: E.P. DETRICK	DRAWN BY: B.M. ROBERTS
DESIGNED BY: B.M. ROBERTS	CHECKED BY: B.O. CRONIN
TYPICAL APPROACH RAIL SHEET	SHEET 10 OF 99



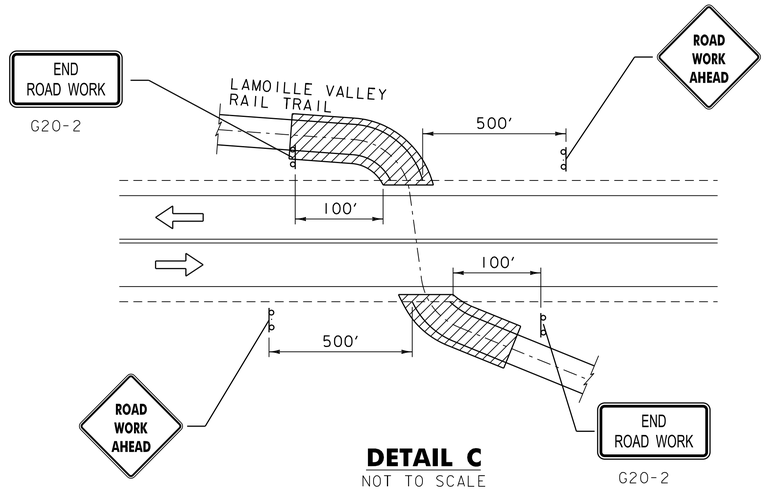
DETAIL A

NOT TO SCALE



DETAIL B

NOT TO SCALE



DETAIL C

NOT TO SCALE

TRAFFIC CONTROL PLANS FOR STATE AND TOWN ROADWAYS

NOT TO SCALE

LEGEND

- FLOW OF TRAFFIC
- WORK AREA
- FLAGGER

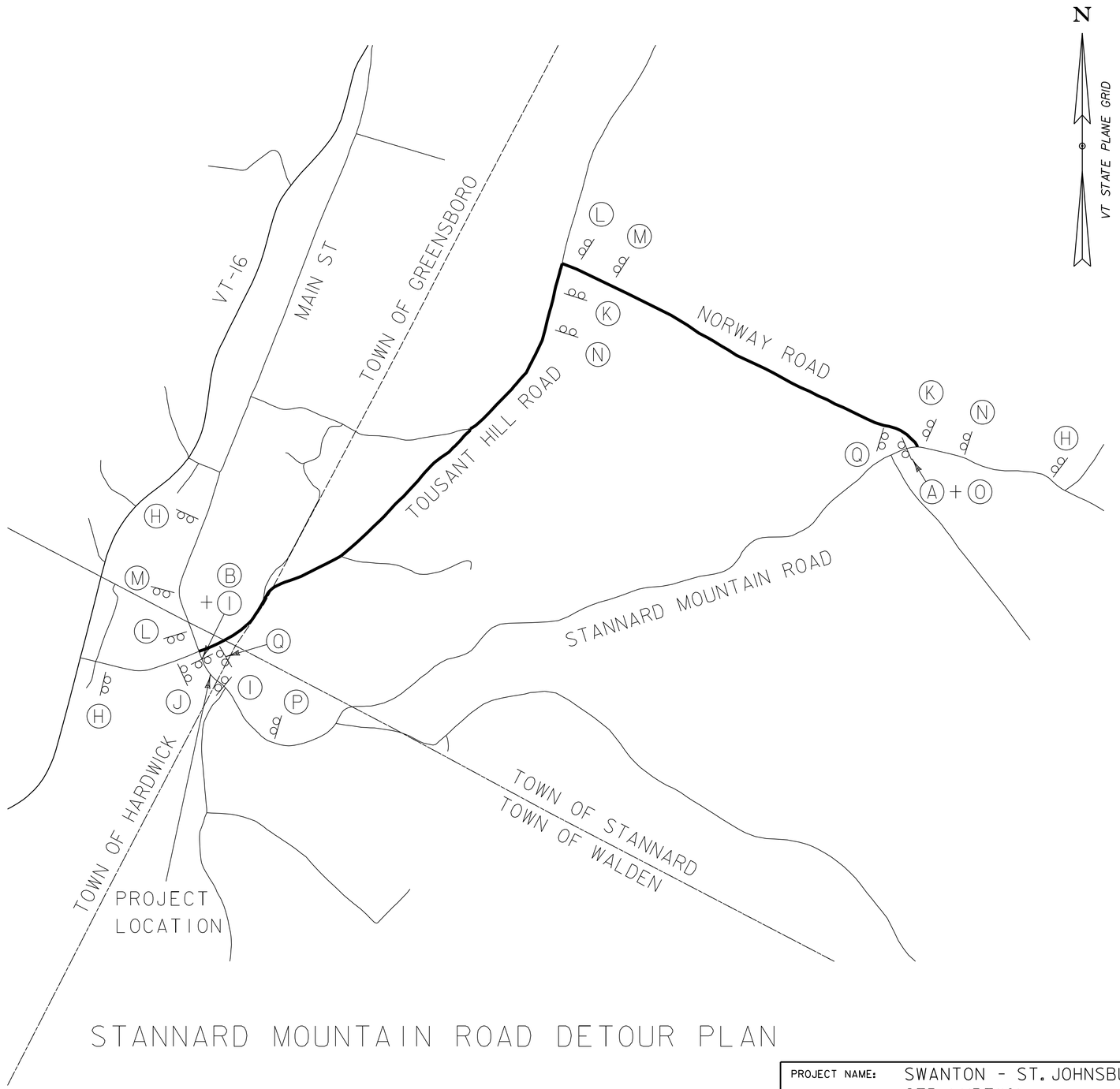
TRAFFIC CONTROL NOTES:

1. THE TRAFFIC CONTROL PLAN SHALL BE DEVELOPED IN ACCORDANCE WITH THE 2018 EDITION OF VTRANS STANDARD SPECIFICATIONS SECTION 641 - TRAFFIC CONTROL AND IN SUBSTANTIAL CONFORMANCE WITH THE 2009 EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND ITS LATEST REVISIONS. THE TRAFFIC CONTROL PLAN SHALL INCLUDE ALL TEMPORARY SIGNS, PAVEMENT MARKINGS, BARRICADES, FLAGGERS, AND OTHER DEVICES REQUIRED TO PROVIDE COMPLETE MANAGEMENT OF TRAFFIC. ANY SIGNS NOT INCLUDED IN THE FHWA STANDARD HIGHWAY SIGNS BOOK (SHSM) SHALL INCLUDE SIGN FACE DIMENSIONS AND LAYOUT.
2. ANY PUBLIC HIGHWAYS, OR DRIVES WITH HIGH TRAFFIC VOLUMES, BETWEEN THE FLAGGER AND THE WORK ZONE WILL REQUIRE AN ADDITIONAL FLAGGER TO MAINTAIN TRAFFIC CONTROL FOR THE PUBLIC HIGHWAY.
3. TRAFFIC CONTROL PLANS SHALL BE ESTABLISHED TO MAINTAIN CONTINUITY OF TRAFFIC THROUGH THE CORRIDOR. INSTALLING, MAINTAINING, ADJUSTING, MODIFYING AND REMOVING THE TRAFFIC CONTROL DEVICES SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 641.11, "TRAFFIC CONTROL, ALL INCLUSIVE".
4. SIGNS SHALL BE INSTALLED SO AS NOT TO OBSTRUCT EXISTING SIGNS OR CORNER SIGHT DISTANCE FROM STATE OR TOWN HIGHWAYS OR DRIVES.
5. ALL SIGNS SHALL BE IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE MUTCD AND ITS LATEST REVISIONS AND THE STANDARD SHSM PUBLISHED BY THE FHWA.
6. SOLID SUBSTRATE CONSTRUCTION SIGNS SHALL HAVE RETROREFLECTIVE SHEETING EQUAL TO OR EXCEEDING 'AMERICAN SOCIETY FOR TESTING AND MATERIALS' (ASTM) TYPE VII, VIII OR IX REQUIREMENTS, UNLESS OTHERWISE NOTED.
7. ROLL UP SIGNS SHALL HAVE RETROREFLECTIVE SHEETING EQUAL TO OR EXCEEDING ASTM TYPE VI.
8. SIGNS SHALL BE ERECTED BEFORE THE START OF ANY WORK AND SHALL BE COVERED UNTIL WORK COMMENCES, DURING PERIODS OF INACTIVITY OR UPON COMPLETION OF THE WORK. EACH SIGN SHALL BE ERECTED IN A NEAT AND WORKMANLIKE MANNER. SIGNS SHALL BE REMOVED UPON COMPLETION OF THE WORK AT THE DISCRETION OF THE ENGINEER.
9. FIXED SIGNS SHALL BE SET SECURELY IN THE GROUND. THE BOTTOM OF A SIGN SHALL BE AT LEAST SEVEN FEET ABOVE THE EDGE OF PAVEMENT. THE NEAREST EDGE OF A SIGN SHALL BE AT LEAST SIX FEET OUTSIDE THE SHOULDER POINT OR FOUR FEET OUTSIDE GUARDRAIL.
10. PORTABLE SIGNS SHALL BE PLACED ON THE EDGE OF ROADWAY AND AT ONE FOOT MINIMUM ABOVE TRAVELED WAY. ALL VEGETATION THAT INTERFERES WITH VISIBILITY OF THE SIGNS SHALL BE REMOVED. WHEN PLACED BEHIND GUARDRAIL, THE BOTTOM OF THE SIGN FACE SHALL BE ABOVE THE TOP OF THE GUARDRAIL.
11. WHERE SIGN INSTALLATIONS ARE NOT PROTECTED BY GUARDRAIL OR OTHER APPROVED TRAFFIC BARRIERS, ALL SIGN STANDS AND POST INSTALLATIONS SHALL BE "NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM" (NCHRP) REPORT 350 AND/OR AASHTO MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) COMPLIANT. NO SIGN POSTS SHALL EXTEND OVER THE TOP OF THE SIGN INSTALLED ON SAID POST(S). WHEN ANCHORS ARE INSTALLED STUB SHALL NOT BE GREATER THAN FOUR INCHES ABOVE EXISTING GROUND.
12. AS WORK PROGRESSES ON THE TRAIL THE COMPLETED PORTION OF THE TRAIL SHOULD BE CLOSED OFF SO PEDESTRIANS, BICYCLIST, ETC. DO NOT HAVE ACCESS UNTIL SUCH TIME AS THE WORK AREA IS OPEN FOR PUBLIC USE. THEREFORE TYPE 3 BARRICADES SHOULD BE PLACED ACROSS THE FULL WIDTH OF THE ENTRANCES TO EACH LOCATION OF THE TRAIL AREA BEING WORKED ON ACCOMPANIED BY A TRAIL CLOSED SIGN
13. WORK THAT TRAVERSES ACROSS TOWN OR STATE HIGHWAYS SHOULD PROVIDE BICYCLE ACCOMODATIONS TO ENSURE THAT OBSTACLES, EQUIPMENT, CONSTRUCTION MATERIALS, TRAFFIC CONTROL DEVICES, ETC. DO NOT ENCROACH INTO THE BICYCLE PATH OF TRAVEL. IT IS IMPORTANT THAT CYCLIST'S ROUTES ARE FREE OF RUTS, SAND AND MUD TO PREVENT CYCLIST'S CRASHES.
14. THE CONTRACTOR SHALL PROVIDE ACCESS THROUGH AND INTO THE WORK ZONE FOR EMERGENCY VEHICLES OR COORDINATE EMERGENCY ROUTES PRIOR TO THE START OF CONSTRUCTION.
15. NO CONSTRUCTION SIGNS SHALL BE INSTALLED AS TO INTERFERE OR OBSTRUCT THE VIEW OF EXISTING TRAFFIC CONTROL DEVICES, STOPPING SIGHT DISTANCE, AND CORNER SIGHT DISTANCE FROM DRIVES AND TOWN HIGHWAYS. EXISTING SIGNS WHICH CONFLICT WITH TEMPORARY TRAFFIC CONTROL SHALL BE COMPLETELY COVERED OR REMOVED.
16. IF USED, SIGN COVERING SHALL NOT DAMAGE THE RETRO-REFLECTIVITY OF THE SIGN FACE. ALSO, THE SIGN COVER SHALL NOT DETERIORATE FOR THE DURATION THAT THE SIGN IS COVERED
17. A ONE DAY ROAD CLOSURE WILL BE ALLOWED FOR THE ERECTION OF BRIDGE A27 AND BRIDGE 34. FOR EACH BRIDGE, THE ROAD CLOSURE SHALL OCCUR BETWEEN THE HOURS OF 7:00 A.M. AND 5:00 P.M.

PROJECT NAME:	SWANTON - ST. JOHNSBURY
PROJECT NUMBER:	STP LVRT(10)
FILE NAME: z20f232tcp.dgn	PLOT DATE: 6/2/2021
PROJECT LEADER: E.P. DETRICK	DRAWN BY: S.E. GEARY
DESIGNED BY: K.C. BARRY	CHECKED BY: E.P. DETRICK
TRAFFIC CONTROL PLAN (1 OF 3)	SHEET 13 OF 99

ID	SIZE W (IN)	SIZE H (IN)	TEXT	SIGNS REQ'D	AREA (SF)	TOTAL AREA (SF)	REMARKS
A	48	18	DETOUR → M4-10R	1	6.00	6.00	MOUNT BELOW R11-4
B	48	18	DETOUR ← M4-10L	1	6.00	6.00	MOUNT BELOW R11-2
H	36	36	DETOUR 1500 FT W20-2A	3	9.00	27.00	MOUNT ON TWO POSTS
I	48	30	ROAD CLOSED R11-2	2	10.00	20.00	MOUNT ON TYPE III BARRICADES
J	36	30	Stannard Mtn. Road DETOUR ↑ M4-9U	1	8.33	8.33	MOUNT ON ONE POST
K	36	30	Stannard Mtn. Road DETOUR → M4-9R	2	8.33	16.66	MOUNT ON ONE POST
L	36	30	Stannard Mtn. Road DETOUR ← M4-9L	2	8.33	16.66	MOUNT ON ONE POST
M	36	30	Stannard Mtn. Road DETOUR ↰ M4-9L	2	8.33	16.66	MOUNT ON ONE POST
N	36	30	Stannard Mtn. Road DETOUR ↱ M4-9R	2	8.33	16.66	MOUNT ON ONE POST
O	60	30	ROAD CLOSED LOCAL TRAFFIC ONLY R11-4	1	12.50	12.50	TYPE III
P	36	36	ROAD CLOSED 1000FT W20-3	1	9.00	9.00	MOUNT ON TWO POSTS
Q	24	30	Stannard Mtn. Road END DETOUR M4-8A	2	3.00	6.00	MOUNT ON ONE POST

NOTES:
ALL DETOUR SIGNING IS CONSIDERED INCIDENTAL
TO ITEM 641.11 "TRAFFIC CONTROL, ALL INCLUSIVE".



STANNARD MOUNTAIN ROAD DETOUR PLAN

PROJECT NAME:	SWANTON - ST. JOHNSBURY
PROJECT NUMBER:	STP LVRT(10)
FILE NAME: 57294.10_bdr_Detour Plan.dgn	PLOT DATE: 6/2/2021
PROJECT LEADER: E.P. DETRICK	DRAWN BY: J. GINGRAS
DESIGNED BY: J. GINGRAS	CHECKED BY: E.P. DETRICK
TRAFFIC CONTROL PLAN (2 OF 3)	SHEET 14 OF 99

ID	SIZE		TEXT	SIGNS REQ'D	AREA (SF)	TOTAL AREA (SF)	REMARKS
	W (IN)	H (IN)					
A	48	18	DETOUR M4-10R	0	6.00	0.00	MOUNT BELOW R11-2
B	48	18	DETOUR M4-10L	1	6.00	6.00	MOUNT BELOW R11-2
H	36	36	DETOUR 1500 FT W20-2A	3	9.00	27.00	MOUNT ON TWO POSTS
I	48	30	ROAD CLOSED R11-2	2	10.00	20.00	MOUNT ON TYPE III BARRICADES
J	36	30	VT-15 EAST DETOUR M4-9U	7	8.33	58.31	MOUNT ON ONE POST
K	36	30	VT-15 EAST DETOUR M4-9R	5	8.33	41.65	MOUNT ON ONE POST
L	36	30	VT-15 EAST DETOUR M4-9L	5	8.33	41.65	MOUNT ON ONE POST
M	36	30	VT-15 EAST DETOUR M4-9L	5	8.33	41.65	MOUNT ON ONE POST
N	36	30	VT-15 EAST DETOUR M4-9R	5	8.33	41.65	MOUNT ON ONE POST
O	60	30	ROAD CLOSED LOCAL TRAFFIC ONLY R11-4	1	12.50	12.50	TYPE III
P	36	36	ROAD CLOSED 1000FT W20-3	1	9.00	9.00	MOUNT ON TWO POSTS
Q	24	30	VT-15 END DETOUR M4-8A	2	3.00	6.00	MOUNT ON ONE POST
R	66	42	VT 15 WEST OF VT 215 TO BE CLOSED ##/##/#### SEEK ALTERNATE ROUTES SP-1	3	19.25	57.75	MOUNT ON TWO POSTS

NOTES:
ALL DETOUR SIGNING IS CONSIDERED INCIDENTAL TO ITEM 641.11 "TRAFFIC CONTROL, ALL INCLUSIVE".

SUGGESTED PORTABLE CHANGEABLE MESSAGE SIGN MESSAGES:

VT-15 CLOSED	7 AM TO 5 PM

BEFORE CLOSURE

VT-15 CLOSED

DURING CLOSURE

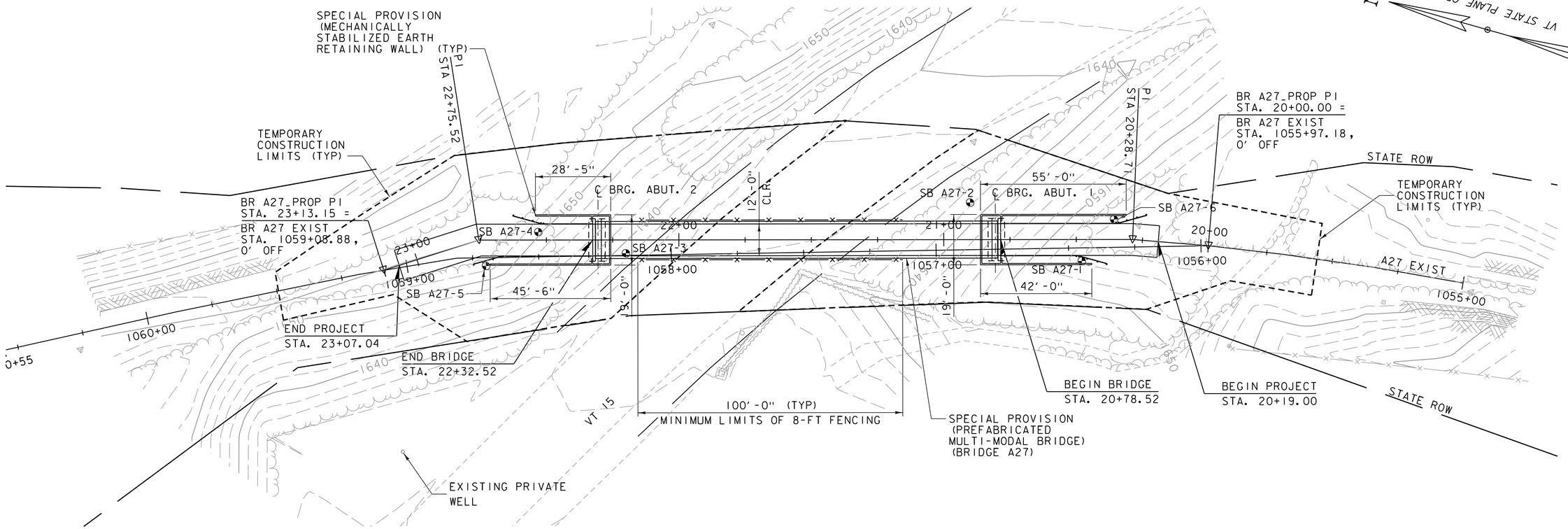
ALL VT-15 M4-9 DETOUR SIGNS SHALL HAVE THE CORRECT "EAST" OR "WEST" CARDINAL DIRECTION FOR THE ASSOCIATED DETOUR ROUTE.

OTHER MESSAGES MAY BE USED AT THE DISCRETION OF THE RESIDENT ENGINEER.

SP-1

VT-15 DETOUR PLAN

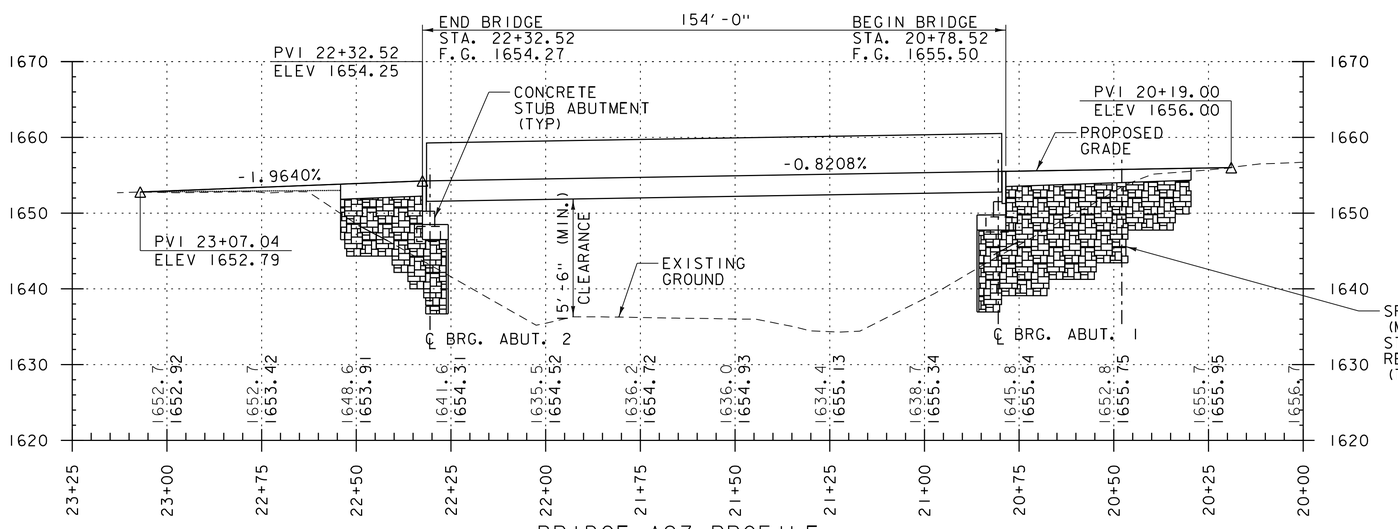
PROJECT NAME:	SWANTON - ST. JOHNSBURY
PROJECT NUMBER:	STP LVRT(10)
FILE NAME: 57294.10_bdr_Detour Plan.dgn	PLOT DATE: 9/2/2021
PROJECT LEADER: E.P. DETRICK	DRAWN BY: J. GINGRAS
DESIGNED BY: J. GINGRAS	CHECKED BY: E.P. DETRICK
TRAFFIC CONTROL PLAN (3 OF 3)	SHEET 1 OF 1



BRIDGE A27 PLAN

0 20 40

SCALE IN FEET



BRIDGE A27 PROFILE

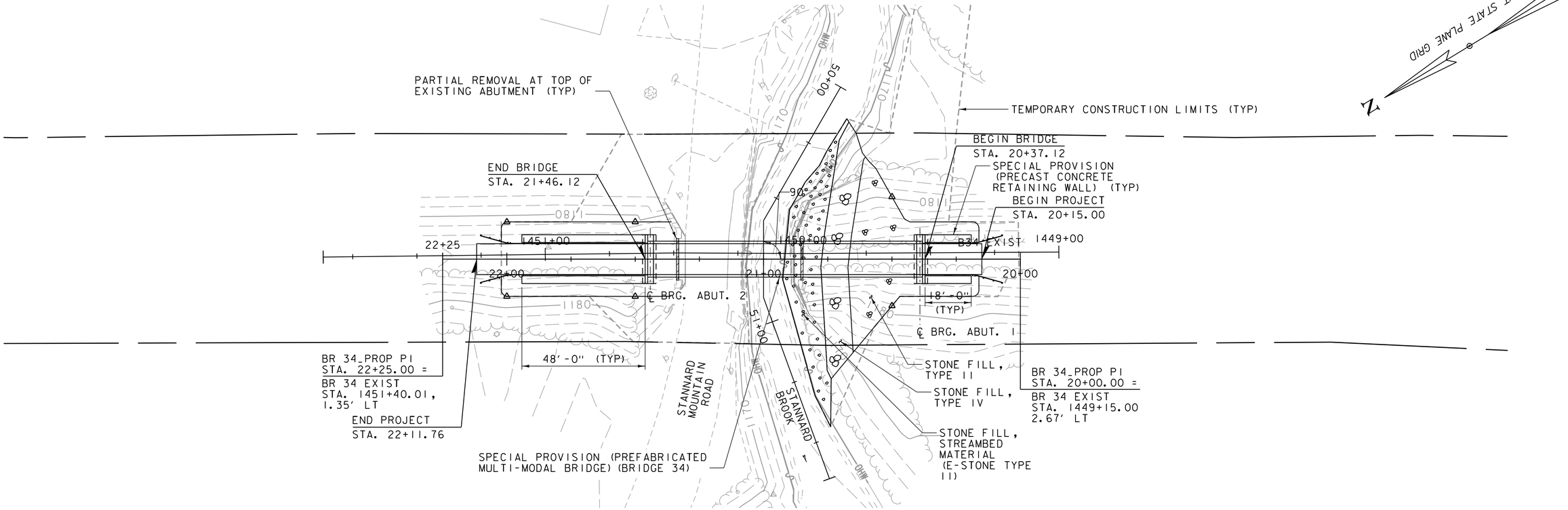
SCALE HORIZONTAL 1" = 20'
VERTICAL 1" = 10'

NOTES:

1. PROPOSED GRADES IN FRONT OF MSE WALLS TO MATCH EXISTING GRADES.
2. THE IN-SITU SOIL BENEATH THE MSE WALL SHALL BE UNDERCUT A MINIMUM OF 1 FT AND A GEOTEXTILE MEETING THE REQUIREMENTS OF SECTION 720 OF THE STANDARD SPECIFICATIONS FOR GEOTEXTILE FOR UNDERDRAIN TRENCH LINING SHALL BE PLACED. A 1 FOOT LAYER OF CRUSHED STONE MEETING THE REQUIREMENTS OF SECTION 704.16, DRAINAGE AGGREAGATE SHALL BE PLACED ON THE GEOTEXTILE TO FORM A LEVELLING PAD
3. MSE WALL DESIGN SHALL LOCATE THE TOP OF THE LEVELING PAD TO PROVIDE FOR A MINIMIM 3 FT WALL EMBEDMENT BELOW FINISHED GRADE.

vhb

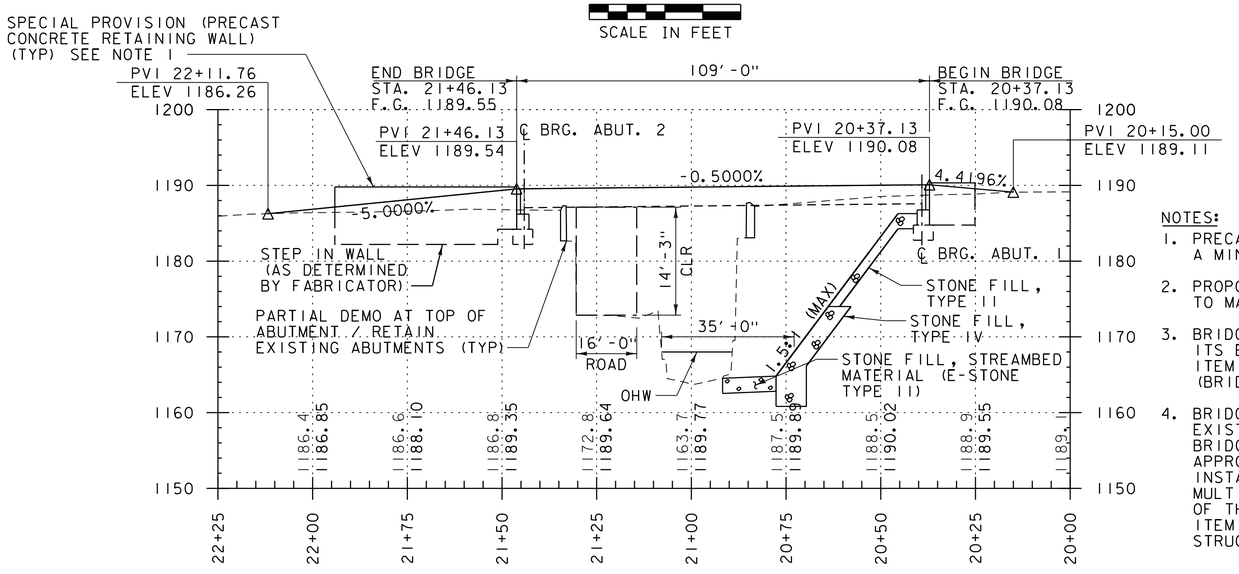
PROJECT NAME:	SWANTON - ST. JOHNSBURY
PROJECT NUMBER:	STP LVRT(10)
FILE NAME: bdr_nul.dgn	PLOT DATE: 6/2/2021
PROJECT LEADER: E.P. DETRICK	DRAWN BY: S.E. GEARY
DESIGNED BY: W.P. RAUSEO	CHECKED BY: J.D. KEENER
BRIDGE A27 PLAN & PROFILE	SHEET 16 OF 99



BRIDGE 34 PLAN

0 20 40

SCALE IN FEET



BRIDGE 34 PROFILE

SCALE HORIZONTAL 1" = 20'
VERTICAL 1" = 10'

NOTES:

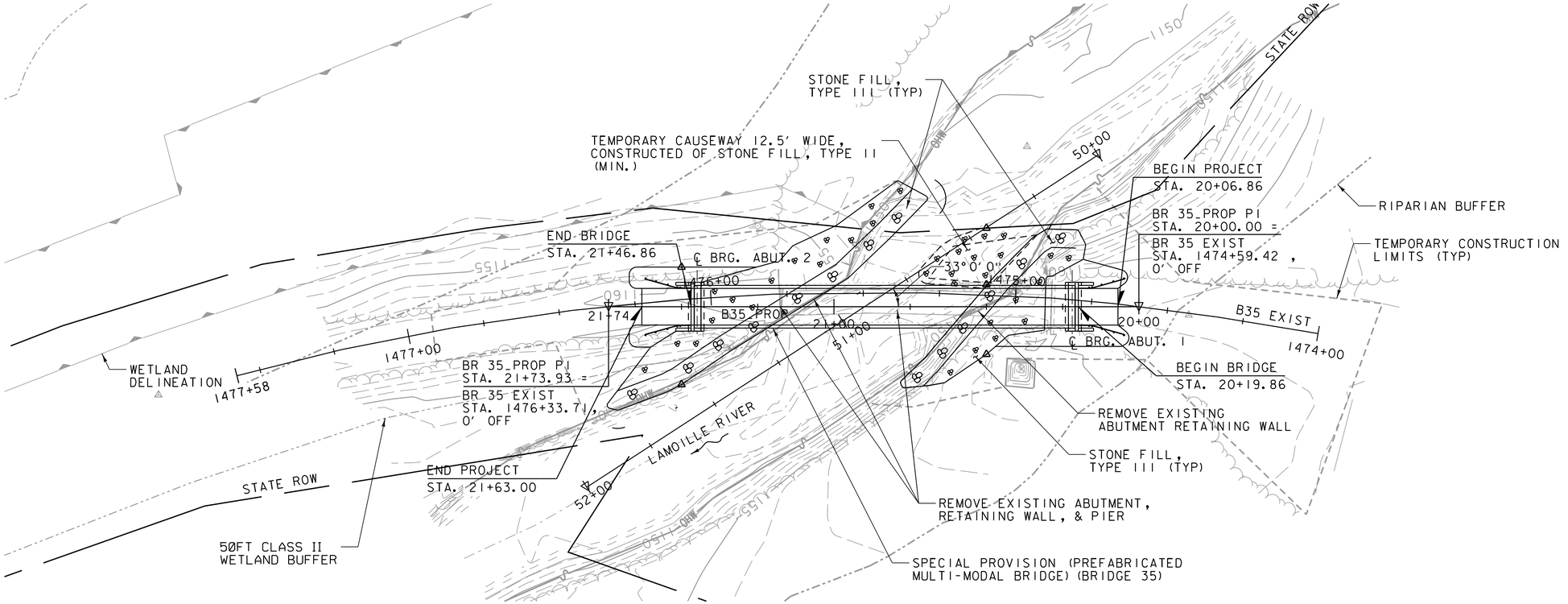
1. PRECAST CONCRETE RETAINING WALL TO HAVE A MINIMUM 6" REVEAL ABOVE GRADE.
2. PROPOSED GRADES IN FRONT OF MSE WALLS TO MATCH EXISTING GRADES.
3. BRIDGE 34 ABUTMENT 1 SHALL BE REMOVED IN ITS ENTIRETY AND WILL BE PAID FOR UNDER ITEM 529.15, "REMOVAL OF STRUCTURE (BRIDGE 34, ABUTMENT 1)".
4. BRIDGE 34 ABUTMENT 2 SHALL HAVE ITS EXISTING BACKWALL REMOVED DOWN TO THE BRIDGE SEAT OR TO AN ELEVATION AS APPROVED BY THE ENGINEER TO ALLOW FOR INSTALLATION OF THE PREFABRICATED MULTI-MODAL BRIDGE. PAYMENT FOR REMOVAL OF THE BACKWALL WILL BE PAID FOR UNDER ITEM 529.20, "PARTIAL REMOVAL OF STRUCTURE (BRIDGE 34, ABUTMENT 2)".

vhb

PROJECT NAME: SWANTON - ST. JOHNSBURY
PROJECT NUMBER: STP LVRT(10)

FILE NAME: bdr_nul.dgn
PROJECT LEADER: E.P. DETRICK
DESIGNED BY: E.F. LAWES
BRIDGE 34 PLAN & PROFILE

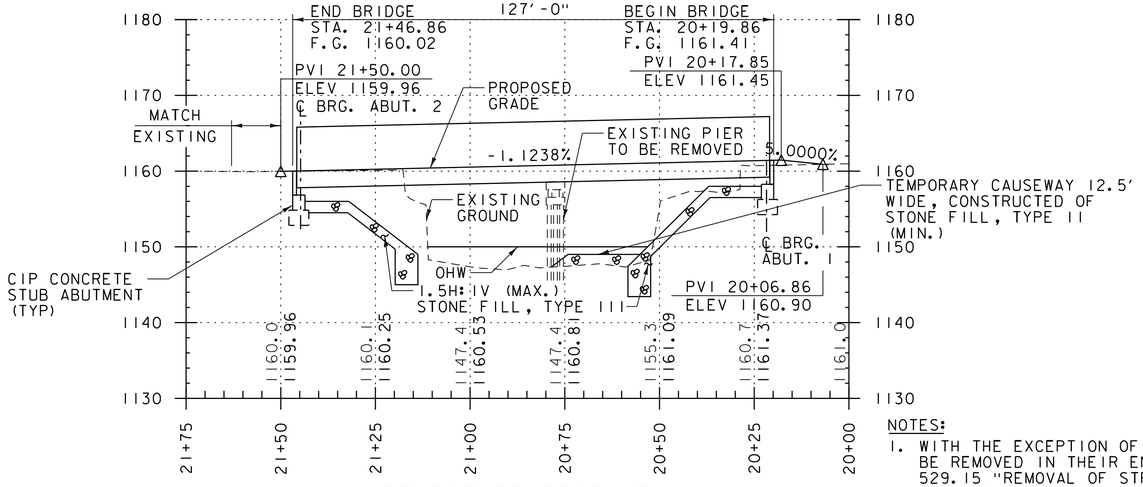
PLOT DATE: 6/2/2021
DRAWN BY: S.E. GEARY
CHECKED BY: J.D. KEENER



BRIDGE 35 PLAN

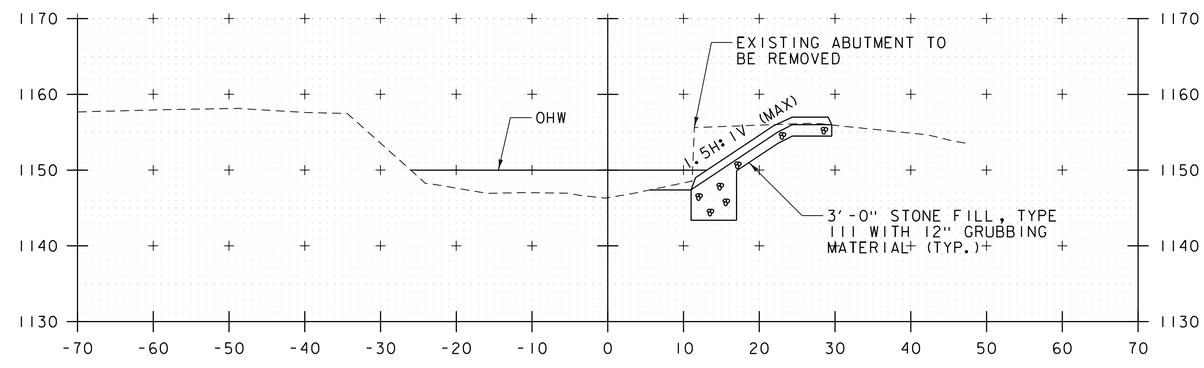
0 20 40

SCALE IN FEET



BRIDGE 35 PROFILE

SCALE HORIZONTAL 1" = 20'
VERTICAL 1" = 10'



CHANNEL CROSS SECTION

STA. 51+00

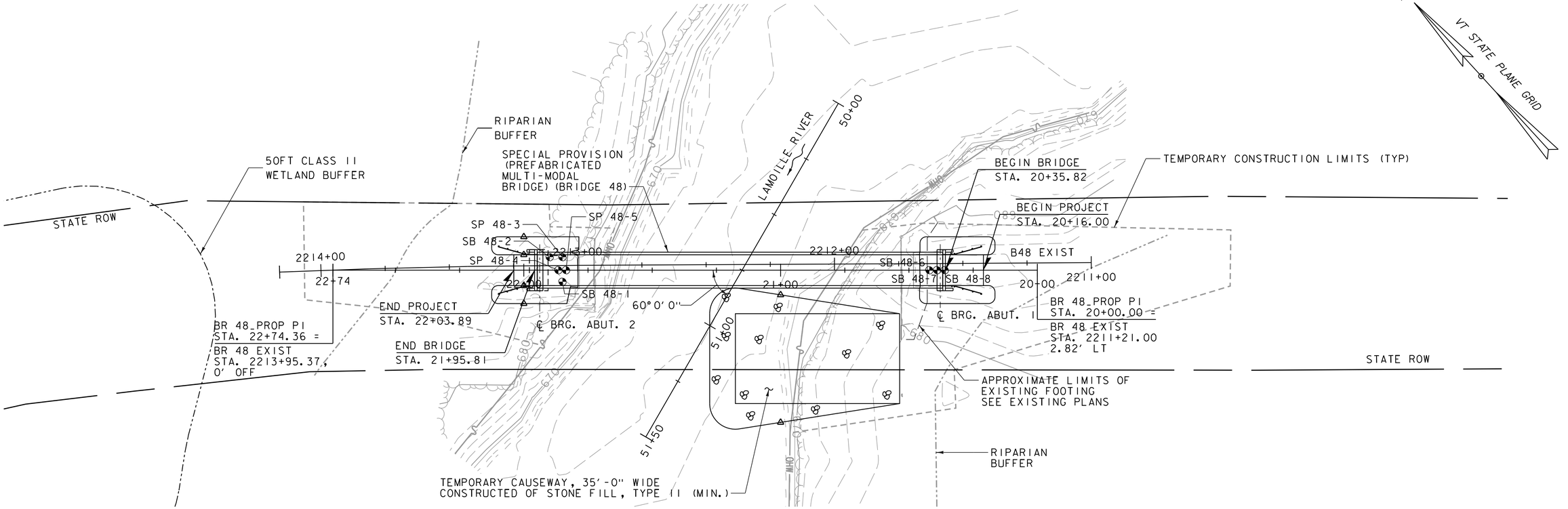
NOTES:

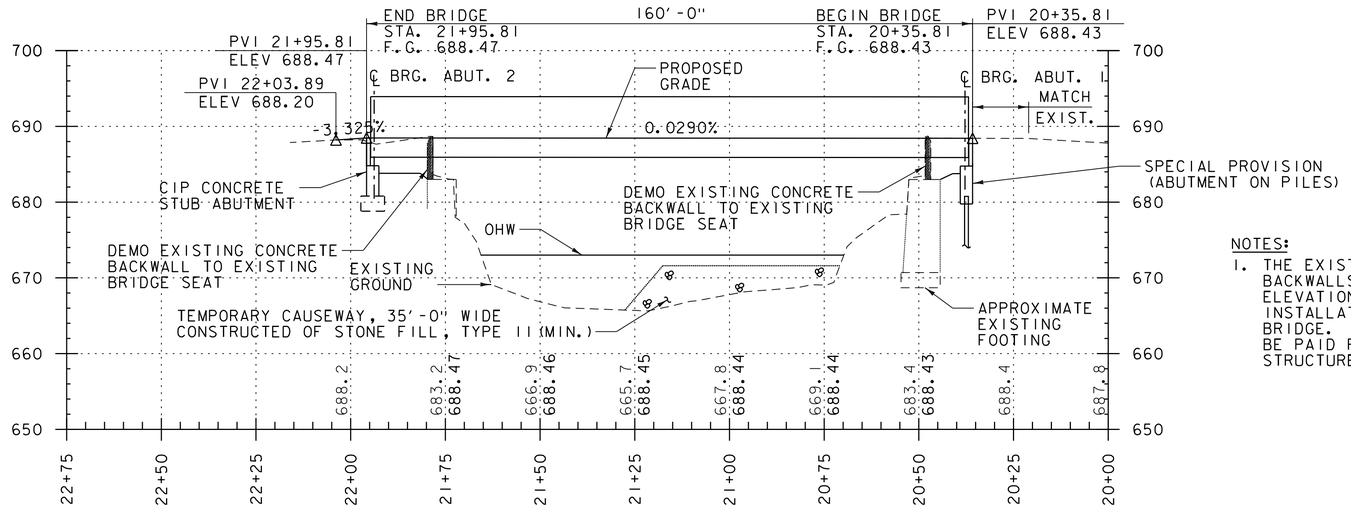
1. WITH THE EXCEPTION OF ABUTMENT 1 ALL ELEMENTS OF BRIDGE 35 SHALL BE REMOVED IN THEIR ENTIRETY AND WILL BE PAID FOR UNDER ITEM 529.15 "REMOVAL OF STRUCTURE (BRIDGE 35)". THIS WORK WILL INCLUDE BUT IS NOT LIMITED TO THE COMPLETE REMOVAL OF THE BRIDGE SUPERSTRUCTURE, INCLUDING ALL BEARINGS AND ANCHOR BOLTS, TIMBER PIERS, ABUTMENT 2, AND ABUTMENT RETAINING WALLS.

2. BRIDGE 35 ABUTMENT 1 SHALL BE REMOVED DOWN TO AN ELEVATION AS APPROVED BY THE ENGINEER TO ALLOW FOR INSTALLATION OF THE PREFABRICATED MULTI-MODAL BRIDGE. PAYMENT FOR REMOVAL OF THE ABUTMENT WILL BE PAID FOR UNDER 529.20, "PARTIAL REMOVAL OF STRUCTURE (BRIDGE 35, ABUTMENT 1)".

vhb

PROJECT NAME:	SWANTON - ST. JOHNSBURY
PROJECT NUMBER:	STP LVRT(10)
FILE NAME: bdr_nul.dgn	PLOT DATE: 6/2/2021
PROJECT LEADER: E.P. DETRICK	DRAWN BY: S.E. GEARY
DESIGNED BY: W.P. RAUSEO	CHECKED BY: J.D. KEENER
BRIDGE 35 PLAN & PROFILE	SHEET 18 OF 99





BRIDGE 48 PROFILE

SCALE HORIZONTAL 1" = 20'
VERTICAL 1" = 10'

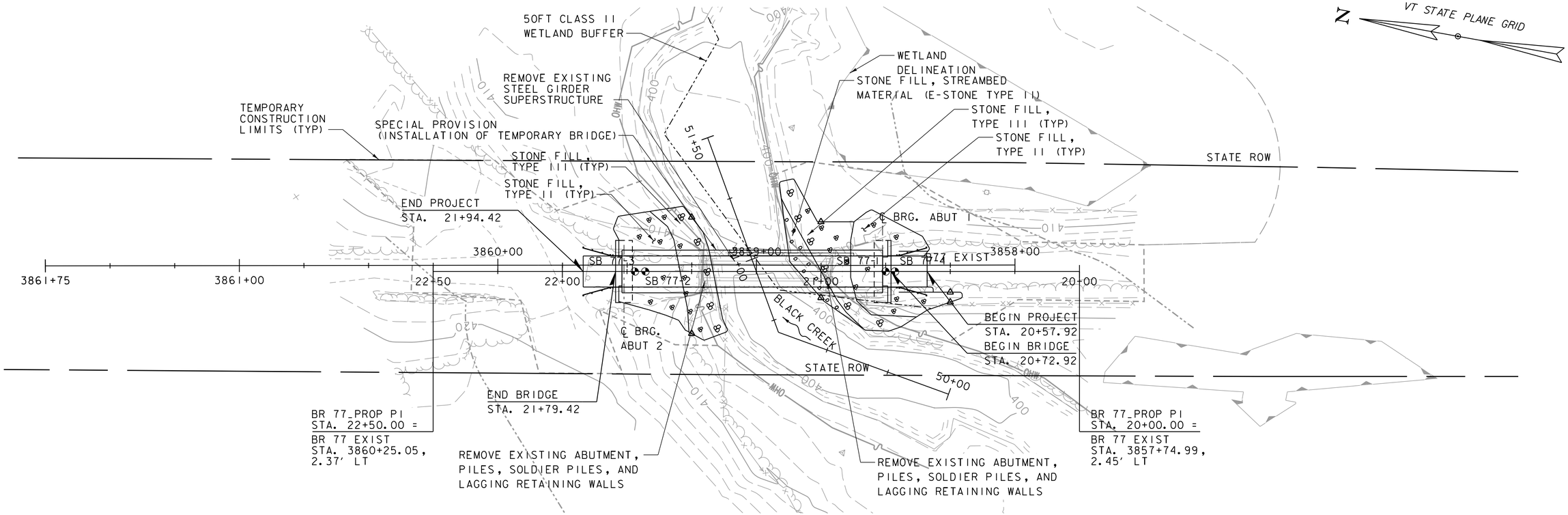
NOTES:

1. THE EXISTING ABUTMENTS FOR BRIDGE 48 SHALL HAVE THE BACKWALLS REMOVED DOWN TO THE BRIDGE SEAT OR TO AN ELEVATION AS APPROVED BY THE ENGINEER TO ALLOW FOR INSTALLATION OF THE PREFABRICATED MULTI-MODAL BRIDGE. PAYMENT FOR REMOVAL OF THE BACKWALLS WILL BE PAID FOR UNDER ITEM 529.20, "PARTIAL REMOVAL OF STRUCTURE (BRIDGE 48 BACKWALLS)".

PROJECT NAME: SWANTON - ST. JOHNSBURY
PROJECT NUMBER: STP LVRT(10)

FILE NAME: bdr_nul.dgn
PROJECT LEADER: E.P. DETRICK
DESIGNED BY: W.P. RAUSEO
BRIDGE 48 PLAN & PROFILE

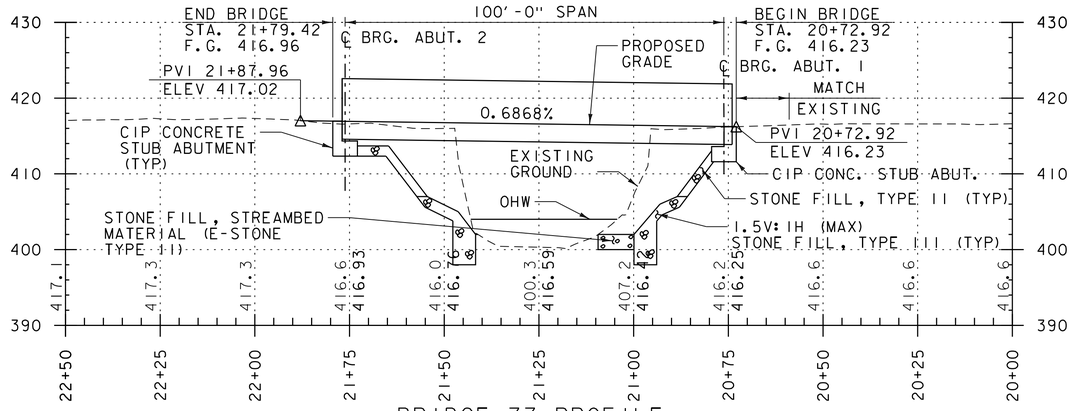
PLOT DATE: 6/2/2021
DRAWN BY: S.E. GEARY
CHECKED BY: J.D. KEENER
SHEET 19 OF 99



BRIDGE 77 PLAN

0 20 40

SCALE IN FEET



BRIDGE 77 PROFILE

SCALE HORIZONTAL 1" = 20'
VERTICAL 1" = 10'

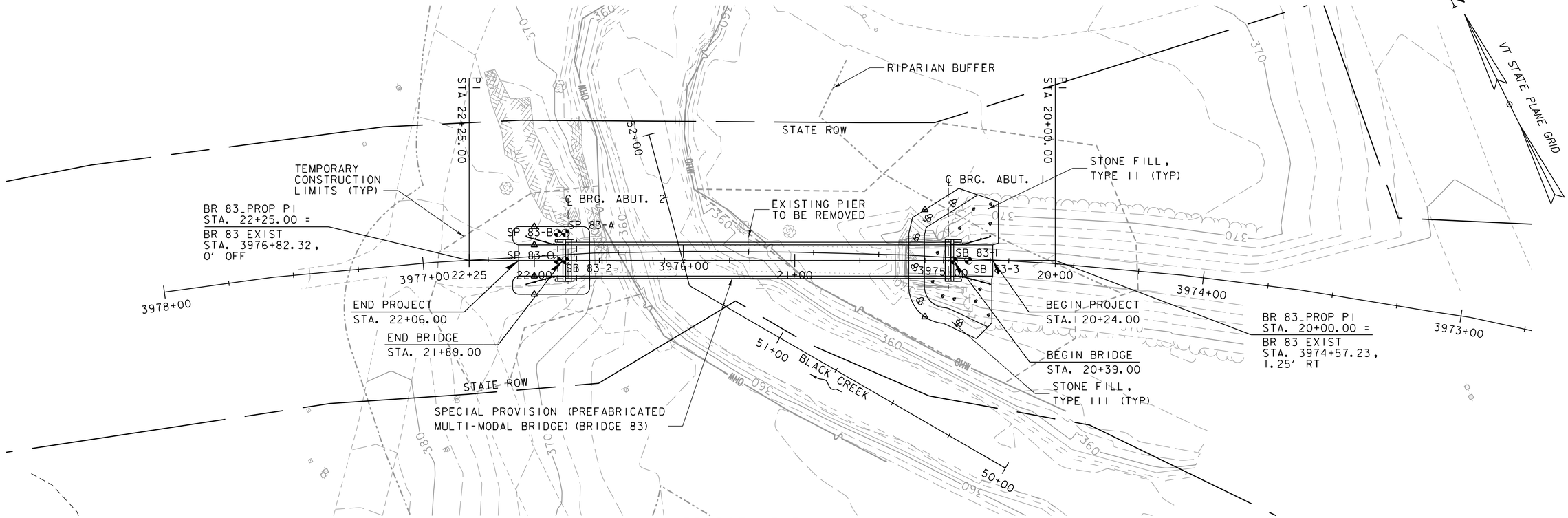
NOTES:

1. ALL ELEMENTS OF BRIDGE 77 SHALL BE REMOVED IN THEIR ENTIRETY AND WILL BE PAIDE FOR UNDER ITEM 529.15 "REMOVAL OF STRUCTURE (BRIDGE 77)". THIS WORK WILL INCLUDE BUT IS NOT LIMITED TO THE COMPLETE REMOVAL OF THE BRIDGE SUPERSTRUCTURE, INCLUDING ALL BEARINGS AND ANCHOR BOLTS, TIMBER PILE ABUTMENTS, AND ABUTMENT RETAINING WALLS.

PROJECT NAME: SWANTON - ST. JOHNSBURY
PROJECT NUMBER: STP LVRT(10)

FILE NAME: bdr_nul.dgn
PROJECT LEADER: E.P. DETRICK
DESIGNED BY: W.P. RAUSEO
BRIDGE 77 PLAN & PROFILE

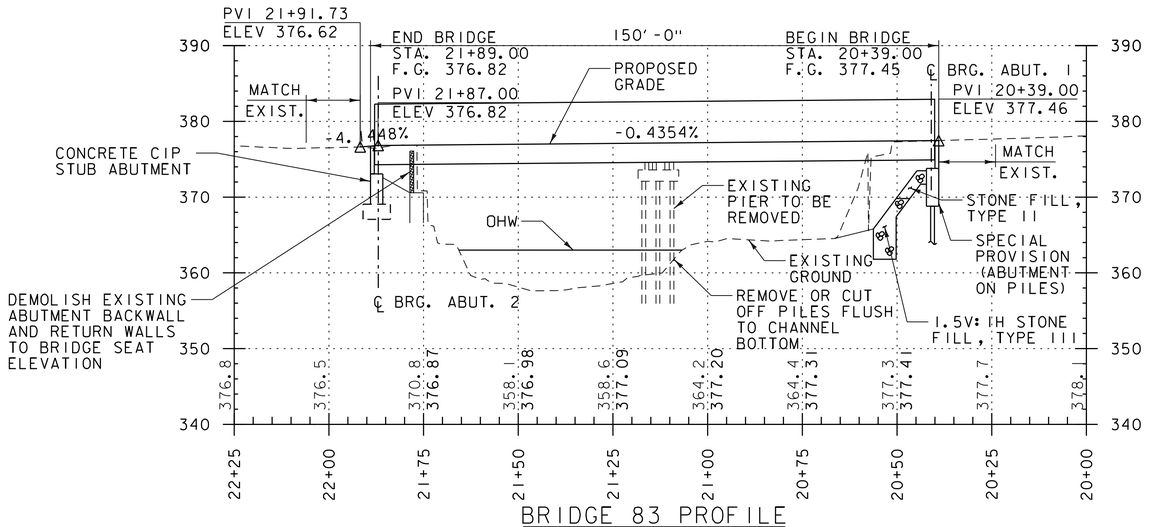
PLOT DATE: 6/2/2021
DRAWN BY: S.E. GEARY
CHECKED BY: J.D. KEENER
SHEET 20 OF 99



BRIDGE 83 PLAN

0 20 40

SCALE IN FEET



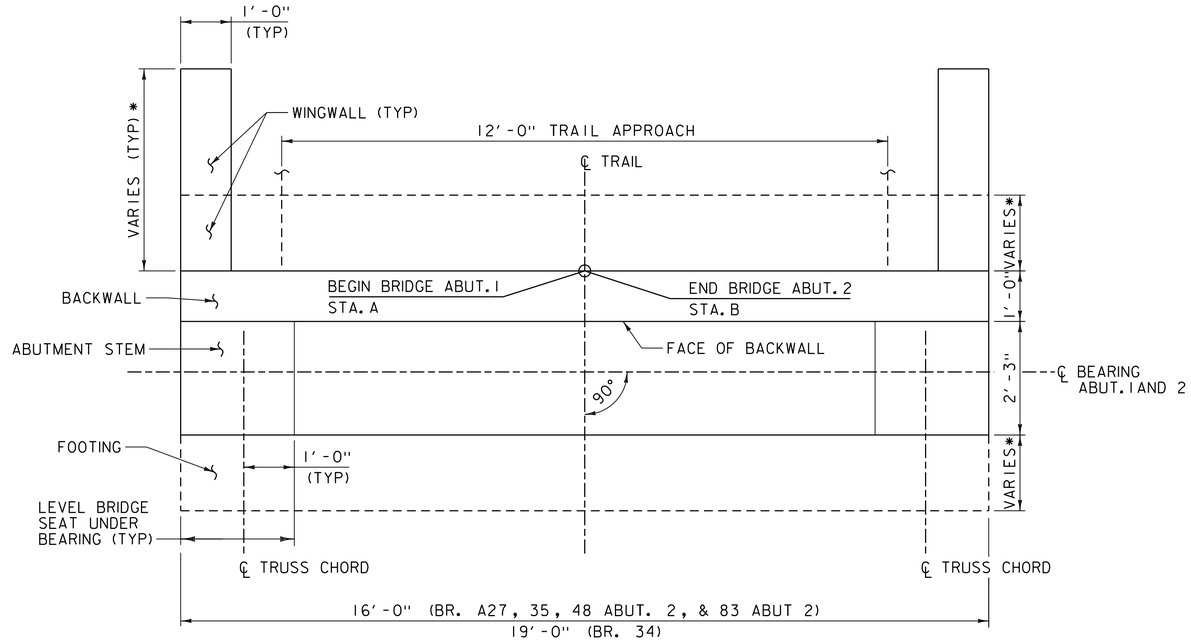
BRIDGE 83 PROFILE

SCALE HORIZONTAL 1" = 20'
VERTICAL 1" = 10'

NOTES:

1. WITH THE EXCEPTION OF ABUTMENT 2 ALL ELEMENTS OF BRIDGE 83 SHALL BE REMOVED IN THEIR ENTIRETY AND WILL BE PAID FOR UNDER ITEM 529.15, "REMOVAL OF STRUCTURE (BRIDGE 83)". THIS WORK WILL INCLUDE BUT IS NOT LIMITED TO THE COMPLETE REMOVAL OF THE BRIDGE SUPERSTRUCTURE, INCLUDING ALL BEARINGS AND ANCHOR BOLTS, TIMBER PILE ABUTMENTS, TIMBER PIERS, AND ABUTMENT RETAINING WALLS.

PROJECT NAME:	SWANTON - ST. JOHNSBURY
PROJECT NUMBER:	STP LVRT(10)
FILE NAME: bdr_nul.dgn	PLOT DATE: 6/2/2021
PROJECT LEADER: E.P. DETRICK	DRAWN BY: S.E. GEARY
DESIGNED BY: W.P. RAUSEO	CHECKED BY: J.D. KEENER
BRIDGE 83 PLAN & PROFILE	SHEET 21 OF 99

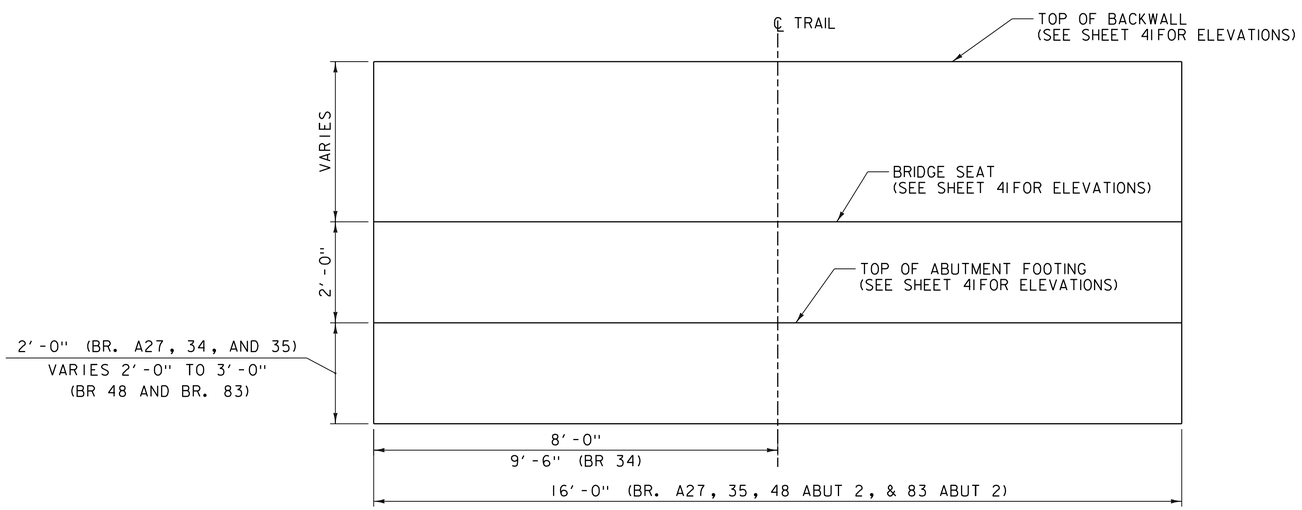


TYPICAL ABUTMENT PLAN
SPREAD FOOTING
NOT TO SCALE

• SEE SHEET 41 FOR DIMENSIONS

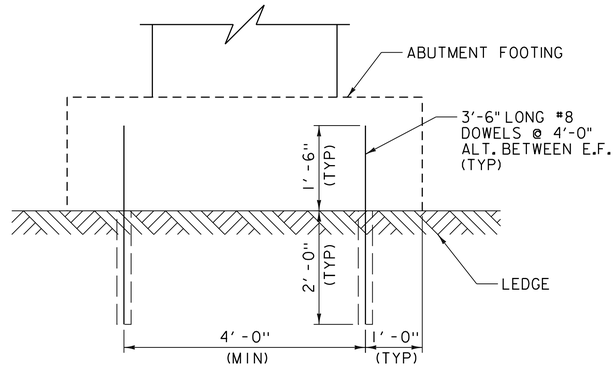
WORKING POINTS		
	W.P. STATION	
BRIDGE	ABUT. 1 STA. A	ABUT. 2 STA. B
A27	20+78.52	22+32.52
34	20+37.12	21+46.12
35	20+19.86	21+46.86
48	20+38.82**	21+95.81
83	20+39.00**	21+89.00

** SEE ABUTMENT DETAILS (2 OF 4).



TYPICAL ABUTMENT ELEVATION
SPREAD FOOTING
NOT TO SCALE

• SEE SHEET 41 FOR DIMENSIONS



TYPICAL DOWEL DETAIL
(FOR LEDGE ONLY)
NOT TO SCALE

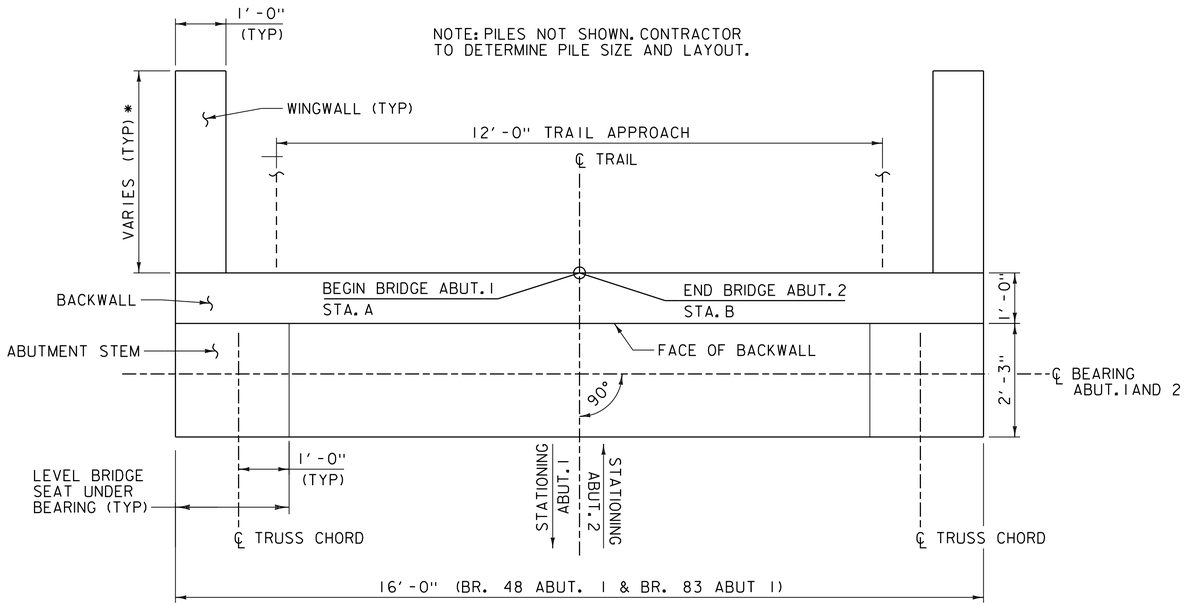
NOTES:

1. AT LOCATIONS WHERE LEDGE VARIES BY MORE THAN 12" FROM BOTTOM OF FOOTING ELEVATIONS AS PROVIDED IN THESE PLANS, CONTRACTOR TO COORDINATE WITH ENGINEER TO PROVIDE LONGER STEM OR PROVIDE SUBFOOTING. PAYMENT FOR SUBFOOTING CONCRETE SHALL BE MADE UNDER CONCRETE, CLASS C.
2. THE LOCATION OF CENTERLINE OF TRUSS CHORD AT CENTERLINE OF ABUTMENT BEARING TO BE DETERMINED BY MANUFACTURER.

PROJECT NAME: SWANTON - ST. JOHNSBURY
PROJECT NUMBER: STP LVRT(10)

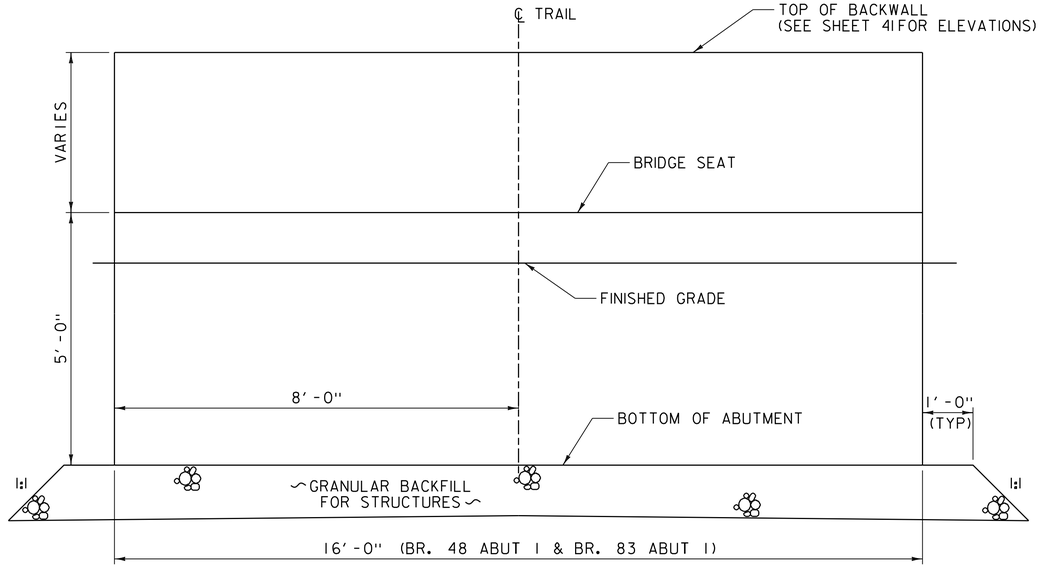
FILE NAME: z20f232_abutplan.dgn
PROJECT LEADER: E.P. DETRICK
DESIGNED BY: S.E. GEARY
ABUTMENT DETAILS (1 OF 4)

PLOT DATE: 6/2/2021
DRAWN BY: S.E. GEARY
CHECKED BY: W.P. RAUSEO
SHEET 39 OF 99



TYPICAL ABUTMENT PLAN
ABUTMENT ON PILES
NOT TO SCALE

• SEE SHEET 41 FOR DIMENSIONS

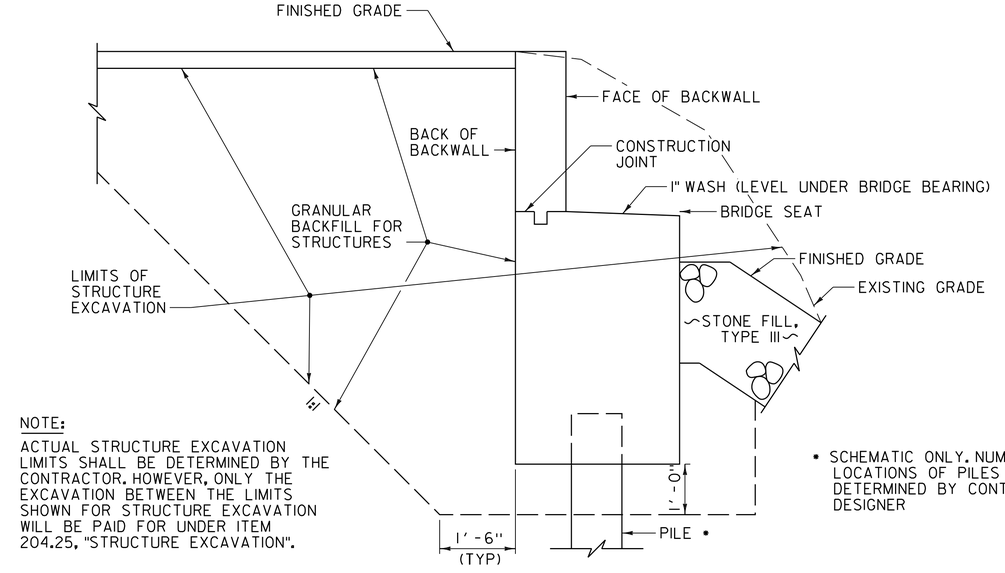


TYPICAL ABUTMENT ELEVATION
ON PILES
NOT TO SCALE

• SEE SHEET 41 FOR DIMENSIONS

ABUTMENT ON PILES NOTES:

1. CONTRACTOR'S ENGINEER SHALL WORK CLOSELY WITH THE BRIDGE MANUFACTURER TO DETERMINE FOUNDATION LOADINGS (BOTH AXIAL AND LATERAL) AND TOLERANCE OF THE BRIDGE FOR TOTAL AND DIFFERENTIAL SETTLEMENT PRIOR TO COMMENCING DESIGN WORK ON THE PILES OR CONCRETE ABUTMENTS. CONTRACTOR'S ENGINEER IS REFERRED TO THE PROJECT GEOTECHNICAL BORINGS AND GEOTECHNICAL DATA REPORTS FOR INFORMATION AND DESIGN REQUIREMENTS.
2. ALL DRAWINGS AND CALCULATIONS FOR THE PILES AND STEEL REINFORCED CONCRETE ABUTMENTS SHALL BE IN ACCORDANCE WITH SPECIAL PROVISION (ABUTMENT ON PILES).
3. BRIDGE ABUTMENT DIMENSIONS HAVE BEEN PROVIDED AND ARE TO BE CONSIDERED APPROXIMATE. THESE DIMENSIONS INCLUDE THOSE FOR THE OVERALL ABUTMENT WIDTH, BEARING SEAT WIDTH, AND BACKWALL HEIGHT. THESE DIMENSIONS SHALL BE VERIFIED OR ADJUSTED BY THE CONTRACTOR'S ENGINEER DURING THE SHOP SUBMITTAL PROCESS TO ACCOMMODATE THE CONTRACTOR'S CHOSEN SUPERSTRUCTURE MANUFACTURER'S DESIGN AND CLEARANCE REQUIREMENTS.
4. THE BEARING SEAT SHALL BE LEVEL UNDER THE BRIDGE BEARINGS. ALL OTHER AREAS SHALL HAVE A 1" WASH.
5. ALL SUBSTRUCTURE CONCRETE SHALL BE PLACED IN THE DRY.
6. ALL REINFORCING STEEL SHALL HAVE A MINIMUM OF 3" CLEAR COVER.
7. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1" × 1".

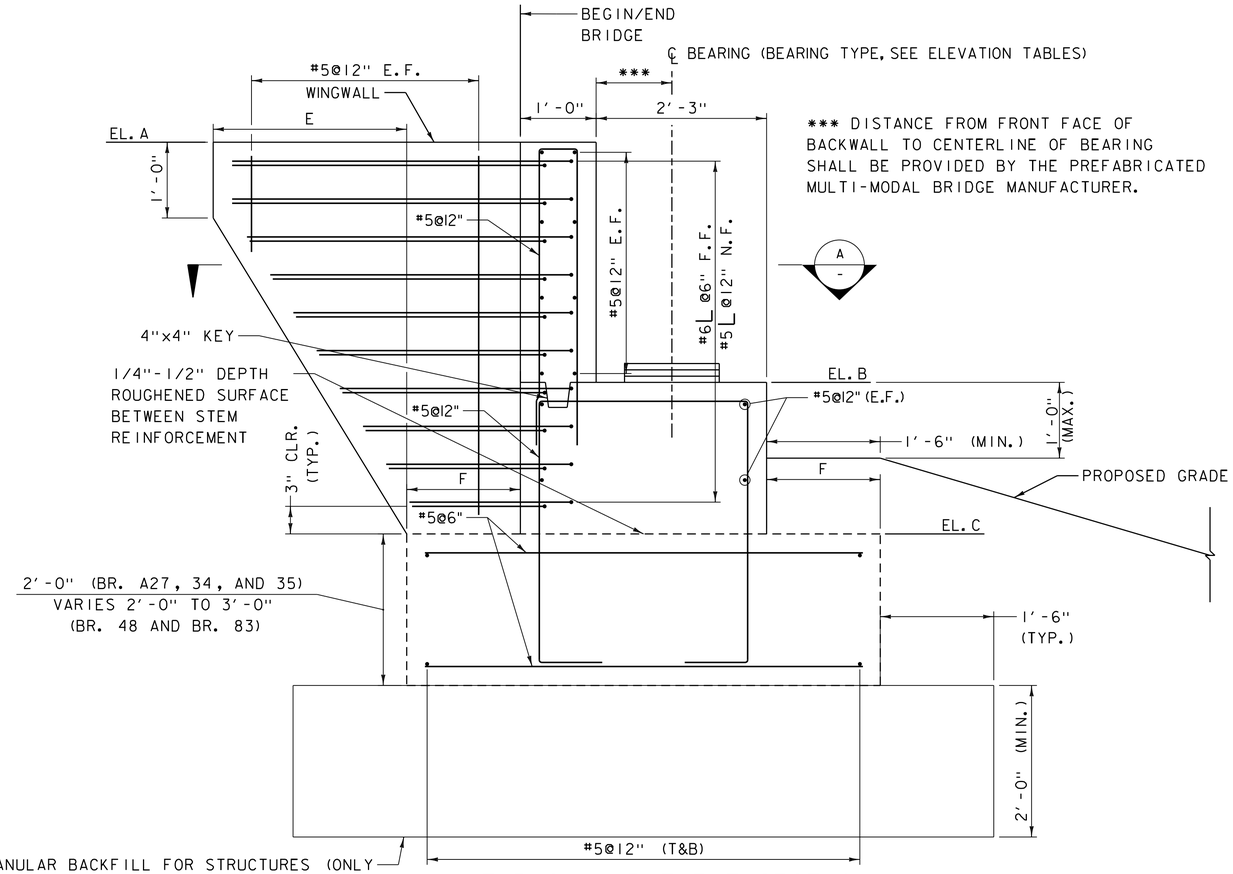


NOTE:
ACTUAL STRUCTURE EXCAVATION LIMITS SHALL BE DETERMINED BY THE CONTRACTOR. HOWEVER, ONLY THE EXCAVATION BETWEEN THE LIMITS SHOWN FOR STRUCTURE EXCAVATION WILL BE PAID FOR UNDER ITEM 204.25, "STRUCTURE EXCAVATION".

• SCHEMATIC ONLY. NUMBER AND LOCATIONS OF PILES TO BE DETERMINED BY CONTRACTOR'S DESIGNER

TYPICAL ABUTMENT SECTION
ON PILES
NOT TO SCALE

PROJECT NAME:	SWANTON - ST. JOHNSBURY
PROJECT NUMBER:	STP LVRT(10)
FILE NAME: z20f232_abutplan.dgn	PLOT DATE: 6/2/2021
PROJECT LEADER: E.P. DETRICK	DRAWN BY: E.F. LAWES
DESIGNED BY: E.F. LAWES	CHECKED BY: W.P. RAUSEO
ABUTMENT DETAILS (2 OF 4)	SHEET 40 OF 99



*** DISTANCE FROM FRONT FACE OF BACKWALL TO CENTERLINE OF BEARING SHALL BE PROVIDED BY THE PREFABRICATED MULTI-MODAL BRIDGE MANUFACTURER.

TYPICAL ABUTMENT SECTION

NOT TO SCALE

ABUTMENT 1 ELEVATIONS

	BRIDGE				
ELEVATION (FT) **	A27	34	35	48	83
A	1655.51	1190.08	1161.43	688.42	377.46
B	1651.51	1186.75	1158.26	N/A	N/A
C	1649.51	1184.75	1156.26	N/A	N/A
BEARING TYPE	EXPANSION	EXPANSION	EXPANSION	EXPANSION	EXPANSION

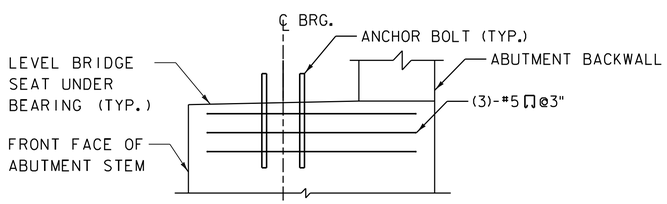
ABUTMENT 2 ELEVATIONS

	BRIDGE				
ELEVATION (FT) **	A27	34	35	48	83
A	1654.25	1189.54	1160.00	688.47	376.74
B	1650.25	1186.21	1156.83	684.80	373.07
C	1648.25	1184.21	1154.83	680.80	369.07
BEARING TYPE	FIXED	FIXED	FIXED	FIXED	FIXED

ABUTMENT AND WINGWALL DIMENSIONS

	BRIDGE				
DIMENSION (FT)	A27	34	35	48	83
E	N/A	N/A	4.00	1.00	1.00
F	1.50	1.00	1.00	2.00	2.00

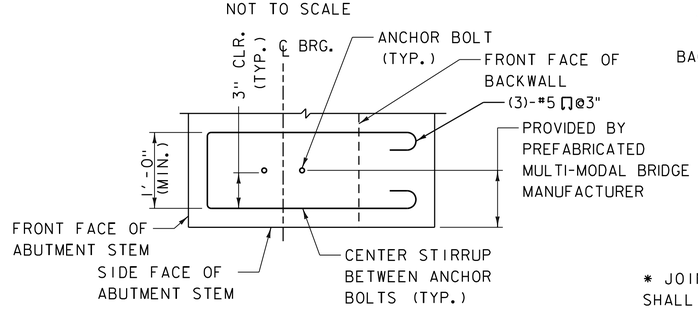
NOTE: BRIDGE 48 ABUTMENT 1 AND BRIDGE 83 ABUTMENT 1 ARE TO BE DESIGNED ON PILES BY CONTRACTOR, INCLUDING REINFORCING. REINFORCING SHOWN IN THESE DRAWINGS DOES NOT APPLY FOR THESE ABUTMENTS.
** ELEVATIONS ARE SUBJECT TO CHANGE AFTER PREFABRICATED MULTI-MODAL BRIDGE MANUFACTURER PROVIDES THE HEIGHT FROM THE TOP OF THE RUNNING BOARDS TO THE BOTTOM CHORD AND THE HEIGHT OF THE BEARING ASSEMBLY AS THIS WILL IMPACT THE HEIGHT OF THE BACKWALL.



NOTE: TYP. ABUTMENT REINFORCEMENT NOT SHOWN FOR CLARITY

TYPICAL ANCHOR BOLT SECTION

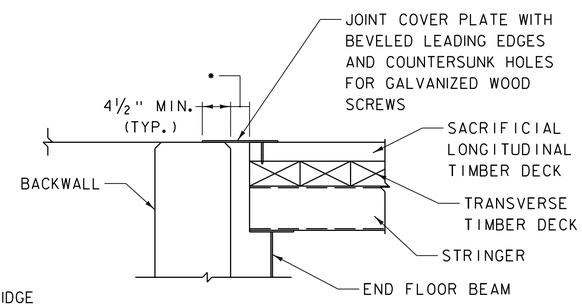
NOT TO SCALE



NOTE: TYP. ABUTMENT REINFORCEMENT NOT SHOWN FOR CLARITY

TYPICAL ANCHOR BOLT PLAN

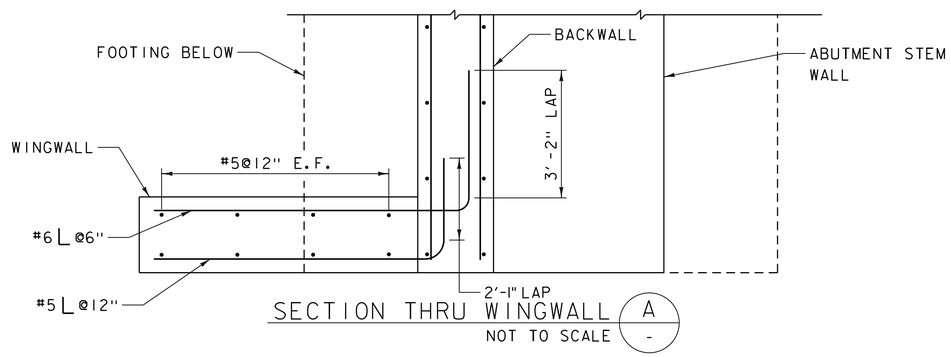
NOT TO SCALE



TYPICAL COVER PLATE DETAIL

NOT TO SCALE

* JOINT WIDTH, COVER PLATE SIZE, AND JOINT PLATE FASTENERS SHALL BE DETERMINED BY THE PREFABRICATED MULTI-MODAL BRIDGE MANUFACTURER. MINIMUM JOINT WIDTH SHALL BE 1". COVER PLATE REQUIRED AT EACH END OF BRIDGE.



SECTION THRU WINGWALL A -

NOT TO SCALE

PROJECT NAME: SWANTON - ST. JOHNSBURY
PROJECT NUMBER: STP LVRT(10)

FILE NAME: z20f232_abut_typ.dgn
PROJECT LEADER: E.P. DETRICK
DESIGNED BY: S.E. GEARY
ABUTMENT DETAILS (3 OF 4)

PLOT DATE: 6/2/2021
DRAWN BY: S.E. GEARY
CHECKED BY: W.P. RAUSEO
SHEET 41 OF 99

PREFABRICATED MULTI-MODAL BRIDGE DESIGN LOAD SUMMARY

BRIDGE	LOADING	DC-SUP (Z)	LL (Z)	PED (Z)	SNOW (Z)	BR (Y)	FR (Y)	WS (X) STR III	WS (Y) STR III	WS (Z) STR III	WS (X) STR V	WS (Y) STR V	WS (X) SVC I	WS (Y) SVC I
A27	H10/PED	72k	20k	81k	54k	6k	6k	27k	17k	18k	13k	8k	10k	6k
34	H10/PED	51k	20k	57k	38k	6k	4k	19k	12k	13k	9k	6k	7k	4k
35	H10/PED	59k	20k	66k	44k	6k	5k	22k	14k	15k	11k	7k	8k	5k
48	H10/PED	76k	20k	85k	56k	6k	6k	29k	18k	19k	14k	9k	11k	7k
83	H10/PED	72k	20k	79k	53k	6k	6k	27k	16k	18k	13k	8k	10k	6k

(X) DIRECTION IS PARALLEL TO THE LONGITUDINAL AXIS OF THE BRIDGE
(Y) DIRECTION IS PERPENDICULAR TO THE LONGITUDINAL AXIS OF THE BRIDGE
(Z) DIRECTION IS A RESULTING VERICAL LOAD

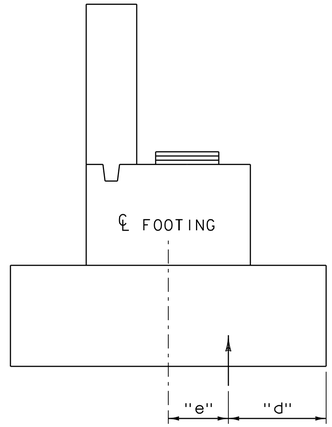
PREFABRICATED MULTI-MODAL BRIDGE DESIGN LOAD NOTES:

1. ABUTMENTS HAVE BEEN DESIGNED USING THE SUPERSTRUCTURE LOADS PROVIDED IN THE TABLE BELOW.
2. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING LOADS FOR THE SELECTED PRE-FABRICATED MULTI-MODAL BRIDGE SUPERSTRUCTURE AND ENSURING LOADS FROM THE SELECTED STRUCTURE ARE LESS THAN OR EQUAL TO THE DESIGN LOADS
3. IF LOADS FROM THE SELECTED PRE-FABRICATED MULTI-MODAL BRIDGE SUPERSTRUCTURE ARE GREATER THAN THE DESIGN LOADS THE CONTRACTOR SHALL CONTACT THE ENGINEER AND PROVIDE LOADS TO VERIFY SUBSTRUCTURE DESIGNS.

BRIDGE A27 ABUTMENT LOAD CASE SUMMARY

LOAD COMBINATION	TOTAL VERTICAL LOAD (KIP)	d (FT)	e (FT)	BEARING PRESSURE (KSF)
STR. I (MAX)	330k	2.66	0.47	3.88
STR. I (MIN)	277k	2.65	0.47	3.26
STR. III (MAX)	254k	2.25	0.88	3.53
STR. III (MIN)	117k	2.57	0.56	1.42
SVC. I (MAX)	230k	2.49	0.64	2.89
SVC. I (MIN)	229k	2.47	0.65	2.89
SVC. I (MIN)	77k	2.74	0.39	0.88

d = DISTANCE FROM FRONT OF FOOTING TO RESULTANT
e = DISTANCE FROM FOOTING CENTERLINE TO RESULTANT



ABUTMENT LOAD DIAGRAM
NOT TO SCALE

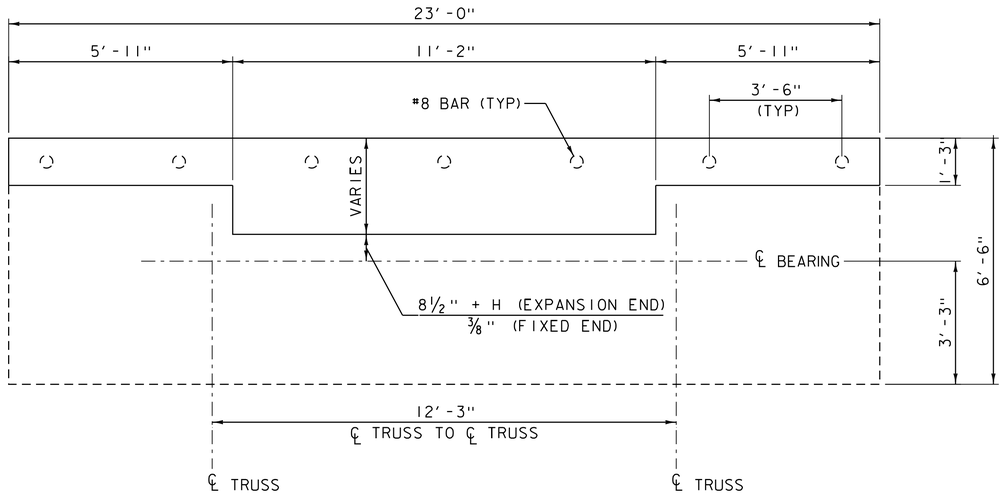
BRIDGE A27 ABUTMENT LOAD CASE SUMMARY NOTES:

1. LOAD CASE SUMMARY, REACTIONS AND BEARING PRESSURES ARE PROVIDED FOR USE BY THE CONTRACTOR AND MSE WALL DESIGNER FOR ESTIMATING PURPOSES ONLY.
2. INFORMATION PROVIDED IS BASED ON ESTIMATED SUPERSTRUCTURE LOADS PROVIDED IN THE DESIGN LOAD SUMMARY TABLE ABOVE. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THE MSE WALL IS DESIGNED FOR THE ACTUAL LOADS FROM THE SUPERSTRUCTURE AS PROVIDED BY THE PREFABRICATED MULTI-MODAL BRIDGE FABRICATOR.
3) STR. III (MAX) LOAD COMBINATION DOES NOT INCLUDE VERTICAL UPLIFT FROM WIND LOADING
4) STR. III (MIN) LOAD COMINATION DOES INCLUDE VERTICAL UPLIFT FROM WIND LOADING
5) CONSTRUCTION LOAD CASE CONSIDERS ABUTMENT BACKFILLED UP TO BRIDGE SEAT WITH AN ASSUMED 4FT EQUIVALENT HEIGHT OF LIVE LOAD SURCHAGE (LS) DIRECTLY BEHIND THE ABUTMENT PRIOR TO THE SUPERSTRUCTURE BEING SET.

vhb

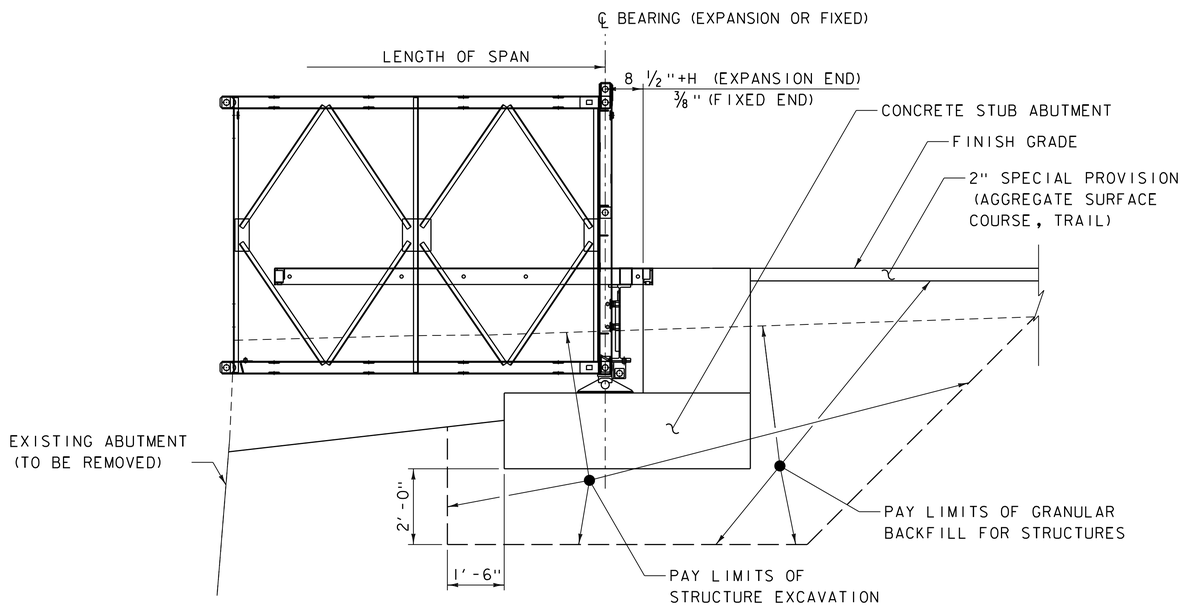
PROJECT NAME: SWANTON - ST. JOHNSBURY
PROJECT NUMBER: STP LVRT(10)

FILE NAME: z20f232_abutplan.dgn
PROJECT LEADER: E.P. DETRICK
DESIGNED BY: E.F. LAWES
ABUTMENT DETAILS (4 OF 4)
PLOT DATE: 6/2/2021
DRAWN BY: E.F. LAWES
CHECKED BY: W.P. RAUSEO



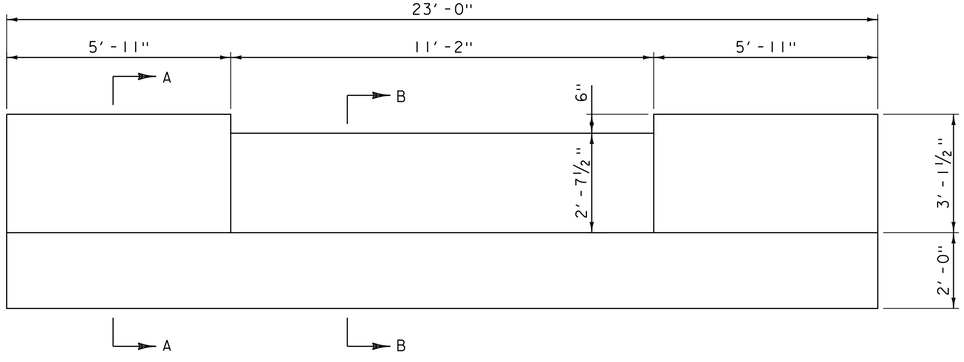
TEMPORARY BRIDGE FOUNDATION PLAN

SCALE ½"=1'-0"



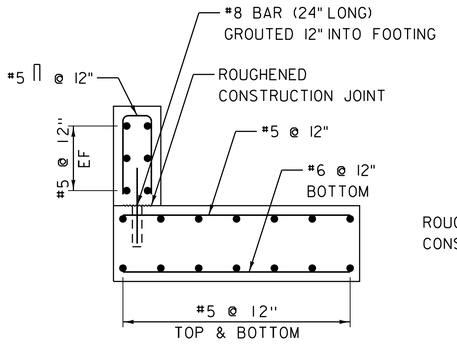
TEMPORARY BRIDGE END DETAIL

NOT TO SCALE



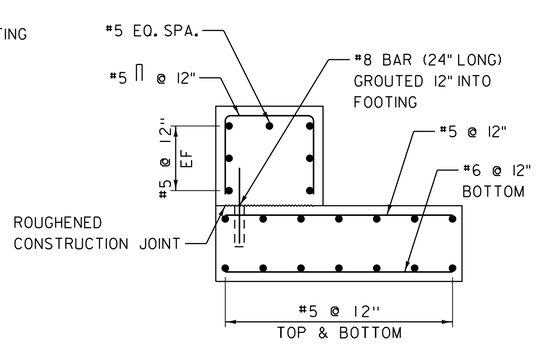
TEMPORARY BRIDGE FOUNDATION ELEVATION

SCALE ½"=1'-0"



SECTION A-A

SCALE ½"=1'-0"

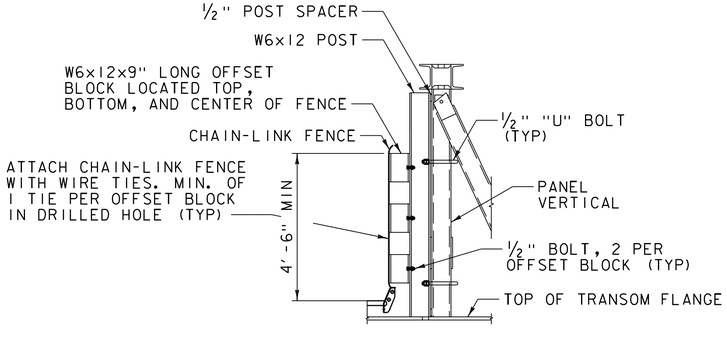


SECTION B-B

SCALE ½"=1'-0"

EXPANSION GAP TEMPERATURE ADJUSTMENT

TEMP (°F)	"H" DISTANCE (IN)
0	1 5/8
15	1 1/2
30	1 5/16
45	1 3/16
60	1 1/16
75	15/16
90	3/4
105	5/8



CHAIN-LINK FENCE ATTACHMENT TYPICAL SECTION

N.T.S.

NOTES:

1. FOUNDATION DETAILS PROVIDED ARE TO SUPPORT A MABEY BRIDGE SUPERSTRUCTURE PROVIDED BY THE VERMONT AGENCY OF TRANSPORTATION (VTRANS). SEE MABEY BRIDGE DETAIL SHEET ATTACHED TO THESE PLANS FOR ADDITIONAL SUPERSTRUCTURE DETAILS.
2. THE BRIDGE FOUNDATION MUST BE PLACED ON SUITABLE MATERIAL AS DETERMINED BY THE ENGINEER. THE FOUNDATION MATERIAL SHALL BE UNDERCUT 2'-0" AND REPLACED WITH GRANULAR BACKFILL FOR STRUCTURES.
3. THE BACKWALLS SHOULD NOT BE INSTALLED UNTIL THE BRIDGE HAS BEEN LAUNCHED AND SET DOWN INTO POSITION ON THE BEARINGS.
4. A CHAIN LINK FENCE SHALL BE ATTACHED TO THE SIDES FOR THE BRIDGE PER THE PROVIDED DETAILS. THE CHAIN LINK FENCE SHALL RUN ALONG BOTH SIDES OF THE BRIDGE FOR THE ENTIRE LENGTH OF THE BRIDGE AND SHALL TIE INTO THE BRIDGE APPROACH RAILING. PAYMENT FOR ALL COSTS ASSOCIATED WITH CHAIN LINK FENCE SHALL BE INCIDENTAL TO ITEM 900.645, "SPECIAL PROVISION (INSTALLATION OF TEMPORARY BRIDGE)".

NOTE:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT
3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
2'-2" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

PROJECT NAME: SWANTON - ST. JOHNSBURY
PROJECT NUMBER: STP LVRT(10)

FILE NAME: z20f232_sub.dgn
PROJECT LEADER: E.P. DETRICK
DESIGNED BY: J.D. KEENER
TEMPORARY BRIDGE DETAILS

PLOT DATE: 6/2/2021
DRAWN BY: J.D. KEENER
CHECKED BY: ------

EPSC PLAN NARRATIVE

1. PROJECT DESCRIPTION

THIS PROJECT INVOLVES REPLACEMENT OR RECONSTRUCTION OF SIX (6) BRIDGES FOR THE LAMOILLE VALLEY RAIL TRAIL. THE BRIDGES INCLUDE BRIDGE A27 SPANNING ROUTE 15 IN WALDEN, BRIDGE 34 SPANNING STANNARD BROOK AND STANNARD MOUNTAIN ROAD IN HARDWICK, BRIDGE 35 SPANNING LAMOILLE RIVER IN GREENSBORO, BRIDGE 48 SPANNING LAMOILLE RIVER IN WOLCOTT, BRIDGE 77 SPANNING BLACK CREEK IN FAIRFIELD, AND BRIDGE 83 SPANNING BLACK CREEK IN BAKERSFIELD.

IT IS ANTICIPATED THAT CONSTRUCTION WILL LAST ONE CONSTRUCTION SEASON.

2. AMOUNT OF DISTURBANCE & RISK EVALUATION

TOTAL AREA OF DISTURBANCE AS SHOWN ON THE ATTACHED EPSC PLAN IS APPROXIMATELY 2.31 ACRES.

THIS PROJECT HAS RECEIVED COVERAGE UNDER INDIVIDUAL CONSTRUCTION STORMWATER PERMIT 6852-INDC, WHICH AUTHORIZES UP TO 5 ACRES OF CONCURRENT EARTH DISTURBANCE. THIS QUANTITY OF DISTURBANCE IS SHARED BETWEEN LVRT(10), LVRT(11), LVRT(12), AND LVRT(13). THE CONTRACTOR MUST COORDINATE WITH VTRANS RESIDENT ENGINEER TO ENSURE THAT THIS LIMIT IS NOT EXCEEDED DURING THE COURSE OF THIS PROJECT.

ANY MODIFICATIONS TO THE PROJECT THAT INCREASE THE RISK TO ENVIRONMENTAL RESOURCES SHALL BE EVALUATED IN ACCORDANCE WITH THE PERMIT REQUIREMENTS. THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY ADDITIONAL PERMITTING.

3. MAJOR COMPONENTS & SEQUENCING

THE CONTRACTOR SHALL SEQUENCE CONSTRUCTION ACTIVITIES TO MINIMIZE THE EXTENT OF DISTURBED SOILS LEFT OPEN TO EROSION AT ANY GIVEN TIME.

DUE TO THE NATURE OF THIS PROJECT AND THE DIFFERENT BRIDGE LOCATIONS, IT IS POSSIBLE THAT MULTIPLE BRIDGES WILL BE UNDER CONSTRUCTION SIMULTANEOUSLY. EACH BRIDGE SITE VARIES IN NECCEASSRY ACTIVITIES, ALTHOUGH THE GENERAL MAJOR COMPONENTS AND SEQUENCE OF EACH BRIDGE REPLACEMENT / INSTALLATION IS LISTED BELOW, AS NEEDED. THE CONTRACTOR SHALL DETERMINE THE FINAL SEQUENCING USED.

- ESTABLISH PERIMETER CONTROLS AND MARK PROJECT BOUNDARIES
- INSTALL SEDIMENT CONTROL MEASURES
- TREE / VEGETATION CLEARING
- CONSTRUCT TEMPORARY ACCESS ROADS AND CRANE PAD, INCLUDING IN-STREAM CAUSEWAYS IF REQUIRED
- DEMOLISH AND REMOVE EXISTING INFRASTRUCTURE
- REGRADE / BUILD FINAL EMBANKMENTS AND PLACE STONE FILL
- CONSTRUCT PROPOSED ABUTMENTS
- ERECT SUPERSTRUCTURE AND PLACE BRIDGE DECK
- CONSTRUCT APPROACH TRAIL
- FINAL STABILIZATION WITH SEED AND RECP OR STONE FILL

4. SITE DESCRIPTION
4.1 VEGETATED BUFFERS

MAINTAINING VEGETATED BUFFERS ALONG STREAM BANKS, WETLANDS OR OTHER SENSITIVE AREAS IS A CRUCIAL EROSION AND SEDIMENT CONTROL MEASURE THAT SHOULD BE IMPLEMENTED WHEREVER POSSIBLE.

THIS PROJECT DOES NOT RELY ON VEGETATED BUFFERS AS A MITIGATING RISK FACTOR. BRIDGE ABUTMENTS AND ASSOCIATED BANK ARMORING WILL OCCUR WITHIN OR IMMEDIATELY ADJACENT TO STREAM BANKS. AT SOME LOCATIONS, IN-STREAM WORK IS REQUIRED TO REMOVE PILE BENTS, RETAINING WALLS, OR OTHER APPURTENANCES ASSOCIATED WITH THE EXISTING STRUCTURES TO BE REMOVED. WORK WITHIN WETLANDS AND OTHER RESOURCE AREAS HAS BEEN AVOIDED AND MINIMIZED TO THE EXTENT PRACTICABLE.

4.2 STREAM CROSSINGS

THIS PROJECT INCLUDES FIVE (5) STREAM CROSSINGS, AS DESCRIBED IN SECTION 5.1 BELOW. WORK WITHIN THE WATER IS BEING AUTHORIZED THROUGH THE VTANR DEC RIVER MANAGEMENT PROGRAM AND THE US ARMY CORPS OF ENGINEERS.

4.3 WETLANDS

THE PROJECT INVOLVES (83) SF OF WETLAND AND (2,763) SF OF WETLAND BUFFER IMPACTS. THE WORK WITHIN THESE AREAS IS BEING AUTHORIZED THROUGH THE VANR WETLANDS OFFICE AND/OR THE US ARMY CORPS OF ENGINEERS.

4.4 TOPOGRAPHY

THE TOPOGRAPHY OF EACH PROJECT AREA IS GENERALLY SLOPED FROM THE TOP OF THE RAILWAY EMBANKMENT TO THE EDGE OF THE STREAM CHANNELS OR ROADWAY CROSSINGS. PROJECT BRIDGES ARE GENERALLY LOCATED IN RURAL AREAS WITH MINIMAL SURROUNDING DEVELOPMENT.

4.5 VEGETATION

THE VEGETATION IN THE PROJECT AREA CONSISTS OF A MIXTURE OF GRASSES, SHRUBS, AND TREES. THE IMPACT TO VEGETATION WILL BE LIMITED TO THAT WHICH IS DIRECTLY AFFECTED BY THE PROJECT. UPON COMPLETION, THE DISTURBED VEGETATION WILL BE REESTABLISHED WITH STANDARD SEED AND MULCH PRACTICES AS DESCRIBED IN THE TURF ESTABLISHMENT DETAIL, UNLESS NOTED OTHERWISE. CERTAIN EMBANKMENTS WILL BE REGRADED SUCH THAT FINAL STABILIZATION REQUIRES THE PLACEMENT OF STONE FILL.

4.6 SOILS

ALL SOIL DATA CAME FROM THE U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE. SOILS ON THE PROJECT SITE INCLUDE:

BUCKLAND LOAM, 8 TO 15 PERCENT SLOPES, "K FACTOR" = **0.53**
MOOSILAUKE VERY FINE SANDY LOAM, 0 TO 3 PERCENT SLOPES, "K FACTOR" = **0.18**
COLTON-DUXBURY COMPLEX, 0 TO 3 PERCENT SLOPES, "K FACTOR" = **0.11**
MONADNOCK FINE SANDY LOAM, 35 TO 60 PERCENT SLOPES, VERY STONY, "K FACTOR" = **0.23**
ONDAWA FINE SANDY LOAM, 0 TO 3 PERCENT SLOPES, OCCASIONALLY FLOODED, "K FACTOR" = **0.35**
PODUNK VARIANT SILT LOAM, "K FACTOR" = **0.39**
DEERFIELD LOAMY FINE SAND, 0 TO 8 PERCENT SLOPES, "K FACTOR" = **0.07**
COLTON GRAVELLY LOAMY SAND, 2 TO 8 PERCENT SLOPES, "K FACTOR" = **0.02**
BELGRADE SILT LOAM, 2 TO 8 PERCENT SLOPES, "K FACTOR" = **0.54**
PERU FINE SANDY LOAM, 8 TO 15 PERCENT SLOPES, "K FACTOR" = **0.42**
LIMERICK SILT LOAM, "K FACTOR" = **0.62**
MISSISQUOI LOAMY SAND, 8 TO 15 PERCENT SLOPES, "K FACTOR" = **0.05**
WOODSTOCK-ROCK OUTCROP COMPLEX, 15 TO 25 PERCENT SLOPES, "K FACTOR" = **0.32**

NOTE: K-VALUES GENERALLY INDICATE THE FOLLOWING:
0.0-0.23 = LOW EROSION POTENTIAL
0.24-0.36 = MODERATE EROSION POTENTIAL
0.37 AND HIGHER = HIGH EROSION POTENTIAL

4.7 OTHER SENSITIVE RESOURCES

NO ADDITIONAL SENSITIVE RESOURCE AREAS ARE ANTICIPATED TO BE IMPACTED BY THE PROJECT.

5. DRAINAGE
5.1 RECEIVING WATERS

THE PROJECT INCLUDES FIVE (5) STREAM CROSSINGS OVER THREE WATER BODIES: STANNARD BROOK, LAMOILLE RIVER, AND BLACK CREEK.

STANNARD BROOK IS SPANNED BY BRIDGE 34. THE TRIBUTARY AREA AT THE BRIDGE CROSSING IS 7.90 SQUARE MILES. THE BROOK IS CLASSIFIED AS STEEP MOUNTAINOUS STREAM WITH A CONFINED AND ARMORED CHANNEL AT THE SITE. THE STREAM BED CONSISTS OF GRAVELS, COBBLES AND BOULDERS.

LAMOILLE RIVER IS SPANNED BY BRIDGES 35 AND 48. THE TRIBUTARY AREAS AT THE BRIDGE CROSSINGS ARE 31.6 SQUARE MILES AND 153.5 SQUARE MILES, RESPECTIVELY. THE RIVER IS CLASSIFIED AS GRADUAL, AND SINUOUS, WITH BED ROCK CONFIMENT PRESENT AT BRIDGE 48. THE STREAM BED CONSISTS OF SAND AND GRAVEL.

BLACK CREEK IS SPANNED BY BRIDGES 77 AND 83. THE TRIBUTARY AREAS AT THE BRIDGE CROSSINGS ARE 29.8 SQUARE MILES, 30.4 SQUARE MILES, AND 38.6 SQUARE MILES, RESPECTIVELY. THE CREEK IS CLASSIFIED AS GRADUAL AND SINUOUS. THE STREAM BED CONSISTS OF SAND.

IN ADDITION, AN UNNAMED TRIBUTARY TO PERKINS MEADOW BROOK IS THE INDIRECT RECEIVING WATER OF THE CONSTRUCTION STORMWATER AT THE PROJECT AREA OF BRIDGE A27.

5.2 DISCHARGE POINTS

DUE TO THE NATURE OF BRIDGE PROJECT AREAS AT WATERWAYS BEING IMMEDIATELY ADJACENT TO THEIR RESPECTIVE RECEIVING WATER, THERE ARE NO DISCRETE DISCHARGE POINTS FOR BRIDGES 34, 35, 48, 77, AND 83. RUNOFF FROM THESE PROJECT AREAS DRAINS TOWARD THE ADJACENT CHANNEL AND ENTERS THE RECEIVING WATER IN MULTIPLE LOCATIONS AT EACH BRIDGE SITE.

FOR BRIDGE A27 OVER ROUTE 15, CONSTRUCTION STORMWATER DRAINS TO A CLOSED DRAINAGE SYSTEM OR VIA OVERLAND FLOW AND ULTIMATELY DISCHARGES TO AN UNNAMED TRIBUTARY TO PERKINS MEADOW BROOK.

5.3 CONVEYANCE/FLOW PATH FROM PROJECT TO WATERS

THE MAJORITY OF THE PROJECT IS NOT CURBED AND RUNOFF DRAINS OVERLAND ACROSS ADJACENT VEGETATED SIDE SLOPES BEFORE REACHING THE RECEIVING WATER. DUE TO THE NATURE OF THE PROJECT, IN-STREAM WORK WILL BE REQUIRED AT SOME SITES, THEREFORE WILL HAVE A LIMITED VEGETATED DISCONNECTION AREA. EROSION PREVENTION AND SEDIMENT CONTROL MEASURES WILL LIMIT SEDIMENT DISCHARGE AT THESE LOCATIONS. AT BRIDGE A27, CONSTRUCTION STORMWATER WILL FLOW OVERLAND TO VEGETATED AREAS OR WILL BE CONVEYED INTO A CLOSED DRAINAGE SYSTEM THAT DISCHARGES TO AN UNNAMED TRIBUTARY TO PERKINS MEADOW BROOK.

6. EROSION PREVENTION AND SEDIMENT CONTROL MEASURES

THE MEASURES INCLUDED IN THIS PLAN ARE PROVIDED AS A GUIDELINE FOR PREVENTING EROSION AND CONTROLLING SEDIMENT TRANSPORT. IT IS EXPECTED THAT THE CONTRACTOR MAY USE THIS PLAN, WITH ADJUSTMENTS AS NECESSARY, BASED ON THEIR SPECIFIC MEANS AND METHODS OF CONSTRUCTION.

APPLYING THESE MEASURES THROUGHOUT CONSTRUCTION IS CRITICAL TO THEIR SUCCESS IN MINIMIZING SEDIMENT TRANSPORT TO THE RECEIVING WATERS. REFER TO THE DETAILS INCLUDED IN THESE PLANS AND THE DEPARTMENT OF ENVIRONMENTAL CONSERVATION'S VERMONT STANDARDS AND SPECIFICATIONS FOR EROSION PREVENTION AND SEDIMENT CONTROL FOR SPECIFIC GUIDANCE.

6.1 IDENTIFY LIMITS OF DISTURBANCE

SITE BOUNDARIES AND AREAS CONSTRUCTION EQUIPMENT CAN ACCESS SHALL BE DELINEATED.

PROJECT DEMARCATION FENCING (PDF) SHALL BE USED TO PHYSICALLY MARK SITE BOUNDARIES. BARRIER FENCE SHALL BE USED INSTEAD OF PROJECT DEMARCATION FENCE WITHIN 100 FEET OF A WATER RESOURCE (STREAM, BROOK, LAKE, POND, WETLAND, ETC.).

6.2 LIMIT CONCURRENT DISTURBANCE

LIMITING THE AMOUNT OF SOIL EXPOSED AT ONE TIME REDUCES THE POTENTIAL EROSION ON SITE. CONCURRENT EARTH DISTURBANCE CAN BE MINIMIZED THROUGH CONSTRUCTION PHASING BY ONLY OPENING UP EARTH AS NECESSARY AND EMPLOYING STABILIZATION PRACTICES IN INCREMENTAL STAGES AS PHASES CHANGE.

6.3 STABILIZE DISTURBED AREAS
6.3.1 ACCESS POINTS/ENTRANCE/EXITS

TRACKING OF SEDIMENT ONTO PUBLIC HIGHWAYS SHALL BE MINIMIZED TO REDUCE THE POTENTIAL FOR RUNOFF ENTERING RECEIVING WATERS. INSTALLATION SHALL COINCIDE WITH THE CONTRACTORS PROGRESS SCHEDULE.

ONE STABILIZED CONSTRUCTION ENTRANCE IS ANTICIPATED ON THIS PROJECT AND SHALL BE LOCATED AS SHOWN ON THIS EPSC PLAN AT BRIDGE A27 WHERE EQUIPMENT IS ANTICIPATED TO ACCESS AREAS OF EXPOSED SOILS FROM PAVED SURFACES.

STABILIZED CONSTRUCTION ENTRANCES ARE NOT ANTICIPATED FOR OTHER BRIDGE SITES, AS ENTRANCE AND EXITS SHALL BE FROM THE EXISTING BALLASTED TRAIL, OR ONTO UNPAVED ROADS.

6.3.2 TEMPORARY MEASURES FOR EXPOSED AREAS DURING CONSTRUCTION

ALL AREAS OF EARTH DISTURBANCE MUST HAVE STABILIZATION IN PLACE WITHIN 14 DAYS OF INITIAL DISTURBANCE. AFTER THIS TIME, DISTURBED AREAS MUST BE STABILIZED IN ADVANCE OF ANY RUNOFF PRODUCING EVENT.

vhb

PROJECT NAME: SWANTON - ST. JOHNSBURY
PROJECT NUMBER: STP LVRT(10)

FILE NAME: z20f232_EPSC_narrative.dgn
PROJECT LEADER: E.P.DETRICK
DESIGNED BY: C.K.FORD
EPSC NARRATIVE (SHEET 1 OF 2)

PLOT DATE: 6/2/2021
DRAWN BY: C.K.FORD
CHECKED BY: E.P.DETRICK
SHEET 54 OF 99

6.3.3 PERMANENT STABILIZATION AT FINAL GRADE

EXPOSED SOIL MUST BE STABILIZED WITHIN 48 HOURS OF REACHING FINAL GRADE.

SEED, MULCH, FERTILIZER AND LIME SHALL BE USED TO ESTABLISH PERMANENT VEGETATION. FOR SLOPES STEEPER THAN 1:3, ROLLED EROSION CONTROL PRODUCT, TYPE I SHALL BE USED INSTEAD OF MULCH. FOR SLOPES STEEPER THAN 1:2, FINAL STABILIZATION WITH STONE RIPRAP IS PROPOSED.
STONE ARMORING OF STREAM EMBANKMENTS ARE PROPOSED TO BE STABILIZED WITH THE APPROPRIATELY SIZED STONE BASED ON HYDRAULIC MODELING, AS SHOWN IN THE PLANS.

6.4 DIVERT UPLAND RUNOFF

DIVERSIONARY MEASURES SHALL BE USED TO INTERCEPT RUNOFF FROM ABOVE THE CONSTRUCTION AND DIRECT IT AROUND THE DISTURBED AREA SO THAT CLEAN WATER DOES NOT BECOME MUDDIED WHILE TRAVELING OVER EXPOSED SOILS ON THE CONSTRUCTION SITE.

RUNOFF FROM UPGRADIENT AREAS MAY NEED TO BE DIVERTED AWAY FROM THE PROJECT AREA. THE CONTRACTOR SHALL REFER TO THE LOW RISK HANDBOOK FOR GUIDANCE.

6.5 INSTALL SEDIMENT BARRIERS

SEDIMENT BARRIERS SHALL BE UTILIZED TO INTERCEPT RUNOFF AND ALLOW SUSPENDED SEDIMENT TO SETTLE OUT. THEY SHALL BE INSTALLED ON THE DOWNHILL SIDE OF CONSTRUCTION ACTIVITIES, PRIOR TO ANY UP-SLOPE WORK.

SILT FENCE WILL BE INSTALLED ALONG THE CONTOURS AND AS PROPOSED ON THE EPSC PLAN. WOVEN WIRE REINFORCED SILT FENCE SHALL BE USED INSTEAD OF SILT FENCE WITHIN 100 FEET UPSLOPE OF RECEIVING WATERS.

6.6 SLOW DOWN CHANNELIZED RUNOFF

CHECK STRUCTURES SHALL BE UTILIZED TO REDUCE THE VELOCITY, AND THUS THE EROSIVE POTENTIAL, OF CONCENTRATED FLOW IN CHANNELS.

TEMPORARY STONE CHECK DAMS ARE NOT ANTICIPATED TO BE NEEDED ON THIS PROJECT.

7. CONSTRUCT PERMANENT CONTROLS

PERMANENT STORMWATER TREATMENT DEVICES SHALL BE INSTALLED AS SHOWN ON THE PLANS AND IN ACCORDANCE WITH PERMIT CONDITIONS.

PERMANENT STORMWATER TREATMENT DEVICES ARE NOT ANTICIPATED TO BE NEEDED OR DESIGNED.

8. DEWATERING

DISCHARGE FROM DEWATERING ACTIVITIES THAT FLOWS OFF OF THE CONSTRUCTION SITE MUST NOT CAUSE OR CONTRIBUTE TO A VIOLATION OF THE VERMONT WATER QUALITY STANDARDS.

TREATMENT OF DEWATERING COFFERDAM IS NOT ANTICIPATED.

9. OFF-SITE AREAS

OFF-SITE WASTE AND BORROW AREAS HAVE NOT BEEN IDENTIFIED FOR THIS PROJECT. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO IDENTIFY AND PERMIT, AS NECESSARY, ANY OFF-SITE AREAS THAT ARE NEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 105.25 - 105.28. ALL EROSION PREVENTION AND SEDIMENT CONTROL MEASURES NECESSARY FOR WASTE, BORROW, AND STAGING AREAS OUTSIDE THE PROJECT LIMITS SHALL BE PAID FOR PER 105.29 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.

VEHICLE AND EQUIPMENT STORAGE AREAS OR AREAS ADJACENT TO CONSTRUCTION TRAILERS OR OTHER HIGH TRAFFIC AREAS SHALL BE COVERED WITH GEOTEXTILE FABRIC AND 12" OF GRAVEL. FOLLOWING COMPLETION OF CONSTRUCTION, ALL NON-NATIVE MATERIALS SHALL BE REMOVED FROM THE STAGING AREA. COMPACTED, RUTTED, OR OTHERWISE DISTURBED SOILS SHALL BE TILLED, RAKED, SEEDED AND MULCHED.

ERODIBLE MATERIALS STOCKPILED WITHIN THE MATERIAL STORAGE AREAS SHALL BE ISOLATED WITH SILT FENCE OR OTHER ACCEPTABLE SEDIMENT BARRIER. SOIL STOCKPILED ON THE SITE SHALL BE SEEDED AND MULCHED.

10. WINTER CONSTRUCTION

CONSTRUCTION ACTIVITIES MAY CONTINUE INTO THE WINTER CONSTRUCTION SEASON, DEPENDING ON ACTUAL FIELD AND WEATHER CONDITIONS. IF ACTIVITIES ARE ON-GOING BETWEEN OCTOBER 15 AND APRIL 15, THE CONTRACTOR SHALL FOLLOW REQUIREMENTS FOR WINTER CONSTRUCTION, AS DEFINED IN SPECIFIC PERMIT CONDITIONS AND AS FOLLOWS:

- ENLARGED ACCESS POINTS, STABILIZED TO PROVIDE FOR SNOW STOCKPILING.
- LIMITS OF DISTURBANCE MOVED OR REPLACED TO REFLECT BOUNDARY OF WINTER WORK.
- DEVELOPMENT OF A SNOW MANAGEMENT PLAN THAT INCLUDES:
  - ADEQUATE STORAGE AND CONTROL OF MELT-WATER
  - STORAGE OF CLEARED SNOW TO BE PLACED DOWN SLOPE OF DISTURBED AREAS AND OUT OF STORMWATER TREATMENT STRUCTURES
- AREAS OF DISTURBANCE WITHIN 100 FT OF A WATERBODY MUST HAVE REINFORCED (WOVEN WIRE) SILT FENCE INSTALLED ACROSS THE SLOPE, DOWNGRADIENT OF THE EARTH DISTURBANCE. ALTERNATIVELY, REGULAR, NON-WOVEN WIRE SILT FENCE MAY BE USED IF COMBINED WITH EROSION CONTROL BERM, EROSION LOG, OR STRAW WATTLE.
- DRAINAGE STRUCTURES MUST BE KEPT OPEN AND FREE OF SNOW AND ICE DAMS.
- SILT FENCE AND OTHER PRACTICES REQUIRING EARTH DISTURBANCE MUST BE INSTALLED AHEAD OF FROZEN GROUND.
- MULCH TO BE APPLIED AT A MINIMUM OF 2 INCHES DEPTH WITH 80-90% COVERAGE.
- AREAS OF DISTURBED SOILS MUST BE STABILIZED PRIOR TO ANY RUNOFF-PRODUCING EVENT, WITH THE FOLLOWING EXCEPTION:
  - STABILIZATION IS NOT REQUIRED IF THE WORK IS OCCURRING IN A SELF-CONTAINED EXCAVATION WITH NO OUTLET AND A DEPTH OF 2 FT OR GREATER (OPEN UTILITY TRENCHES), PROVIDED THAT ANY DEWATERING, IF NECESSARY, IS CONDUCTED AS REQUIRED.
- PRIOR TO STABILIZATION, SNOW OR ICE MUST BE REMOVED TO LESS THAN 1" THICKNESS.
- USE STONE TO STABILIZE AREAS WHERE CONSTRUCTION VEHICLE TRAFFIC IS ANTICIPATED.

11. INSPECTION & MAINTENANCE

INSPECTION AND MONITORING OF THE PROJECT'S EPSC MEASURES SHALL BE CONDUCTED IN ACCORDANCE WITH STANDARD SPECIFICATION 653.04 MONITORING EROSION PREVENTION AND SEDIMENT CONTROL PLAN, ALONG WITH PERMIT SPECIFIC INSPECTION REQUIREMENTS.

THE CONTRACTOR SHALL PROVIDE A COPY OF THEIR INSPECTION FORM AS PART OF THEIR EPSC PLAN.

ALL EPSC MEASURES SHALL BE REGULARLY MAINTAINED AND SHALL BE CHECKED FOR SEDIMENT BUILD-UP. SEDIMENT SHALL BE DISPOSED OF AT AN APPROVED SITE WHERE IT WILL NOT BE SUBJECT TO EROSION.

vhb

PROJECT NAME: SWANTON - ST. JOHNSBURY
PROJECT NUMBER: STP LVRT(10)

FILE NAME: z20f232_EPSC_narrative.dgn
PROJECT LEADER: E.P.DETRICK
DESIGNED BY: C.K.FORD
EPSC NARRATIVE (SHEET 2 OF 2)

PLOT DATE: 6/2/2021
DRAWN BY: C.K.FORD
CHECKED BY: E.P.DETRICK

GENERAL AMENDMENT GUIDANCE		
FERTILIZER	LIME	
10/20/10	AG LIME	PELLITIZED
500 LBS/AC	2 TONS/AC	1 TONS/AC

GRASSED WATERWAY SEED MIX SHALL MEET THE FOLLOWING CRITERIA:

SEED	% WEIGHT
VIRGINIA WILD RYE GRASS	20
FOX SEDGE	10
AMERICAN MANNAGRASS	20
GIANT BUR-REED	10
COMMON THREE-SQUARE	20
SOFT-STEM BULRUSH	10
CANADA RUSH	10

WETLAND SEED MIX SHALL MEET THE FOLLOWING CRITERIA:

SEED	% WEIGHT
NODDING BUR MARIGOLD	80% MIN.
FOX SEDGE	4 MIN.
CREEPING BENTGRASS	3 MIN.
RIVERBANK WILD RYE	3 MIN.
VIRGINIA WILD RYE	0.5 MIN.
SOFT RUSH	0.5 MIN.
SENSITIVE FERN	1.0 MIN.
BLUE VERCAIN	
BLOCKWELL SWITCH GRASS	
GREY DOGWOOD	
CREEPING RED FESCUE	

MULCH MATERIAL AND APPLICATION

MULCH MATERIAL	QUALITY STANDARDS	PER 1,000 SQ-FT	PER ACRE	DEPTH OF APPLICATION
WOOD CHIPS OR SHAVINGS	AIR DRIED, FREE OF OBJECTIONABLE MATERIAL	500 - 900 LBS	10 - 20 TONS	2d07"
WOOD FIBER CELLULOSE (PARTIALLY DIGESTED WOOD FIBERS)	MADE FROM NATURAL WOOD USUALLY WITH GREEN DYE AND DISPERSNG AGENT	50 LBS	2,000 LBS	N/A
GRAVEL, CRUSHED STONE OR SLAG	WASHED; SIZE 2B OR 3A 1 1/2	9 CY	405 CY	3"
HAY OR STRAW	AIR-DRIED; FREE OF UNDESIRABLE SEEDS AND COURSE MAERIALS	90 - 100 LBS, 2-3 BALES	2 TONS (100-120 BALES)	COVER ABOUT 90% SURFACE
COMPOST	UP TO 3" PIECES, MODERATELY TO HIGHLY STABLE	3 - 9 CY	3 - 9 CY	1-3"

TEMPORARY SEED MIX SHALL BE USED BETWEEN 9/16 AND 5/16 AND SHALL MEET THE FOLLOWING CRITERIA:

SEED	% WEIGHT	% GERMINATION
WINTER RYE	80% MIN.	85 MIN.
RED FESCUE (CREEPING)	4 MIN.	80 MIN.
PERENNIAL RYE GROSS	3 MIN.	90 MIN.
RED CLOVER	3 MIN.	90 MIN.
OTHER CROP GROSS	0.5 MIN.	
NOXIOUS WEED SEED	0.0 MAX.	
INERT MATTER	1.0 MIN.	

PERMANENT SEED MIX SHALL BE USED AS EARLY AS PRACTICABLE BETWEEN 5/15 AND 9/15 AND SHALL MEET THE FOLLOWING CRITERIA:

SEED	% WEIGHT
RED FESCUE	50%
SHEEP FESCUE	25%
RED TOP	5%
WHITE CLOVER	10%
ANNUAL RYE	10%

CONSTRUCTION GUIDANCE

1. SEED MIX: THE CONTRACTOR SHALL COORDINATE WITH THE RESIDENT ENGINEER ON WHICH SEED MIX TO USE.
2. SEED MIX: USE AS INDICATED IN THE PLANS AND/OR FOR ALL ESTABLISHED UPLAND (NON WETLAND) AREAS DISTURBED BY THE CONTRACTOR.
3. ALL SEED MIXTURES: SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT AND SHALL BE FREE OF ALL NOXIOUS SEED.
4. FERTILIZER AND LIMESTONE: SHALL FOLLOW RATES SHOWN ON PLAN OR AS DIRECTED BY THE ENGINEER.
5. HAY MULCH: TO BE PLACED ON EARTH SLOPES AT THE RATE OF 2 TONS/ACRE, ACHIEVE 90% GROUND COVER OR AS DIRECTED BY THE ENGINEER.
6. STRAW MULCH: TO BE PLACED ON EARTH SLOPES IN WETLANDS AND WETLAND BUFFERS AT THE RATE OF 2 TONS/ACRE, ACHIEVE 90% GROUND COVER OR AS DIRECTED BY THE ENGINEER.
7. HYDROSEEDING: ALTHOUGH GUIDANCE IS GIVEN ABOVE THE SITE CONDITIONS AND THE TYPE OF HYDROSEED PROPOSED FOR USE WILL ULTIMATELY DICTATE THE AMOUNTS AND TYPES OF SOIL AMENDMENTS TO BE APPLIED.
8. TURF ESTABLISHMENT: PLACING SEED, FERTILIZER, LIME AND MULCH PRIOR TO SEPTEMBER 15 AND AFTER APRIL 15 CAN BETTER ENSURE A VIGOROUS GROWTH OF GRASS.

ADAPTED FROM VTRANS TECHNICAL LANDSCAPE MANUAL FOR ROADWAYS AND TRANSPORTATION FACILITIES

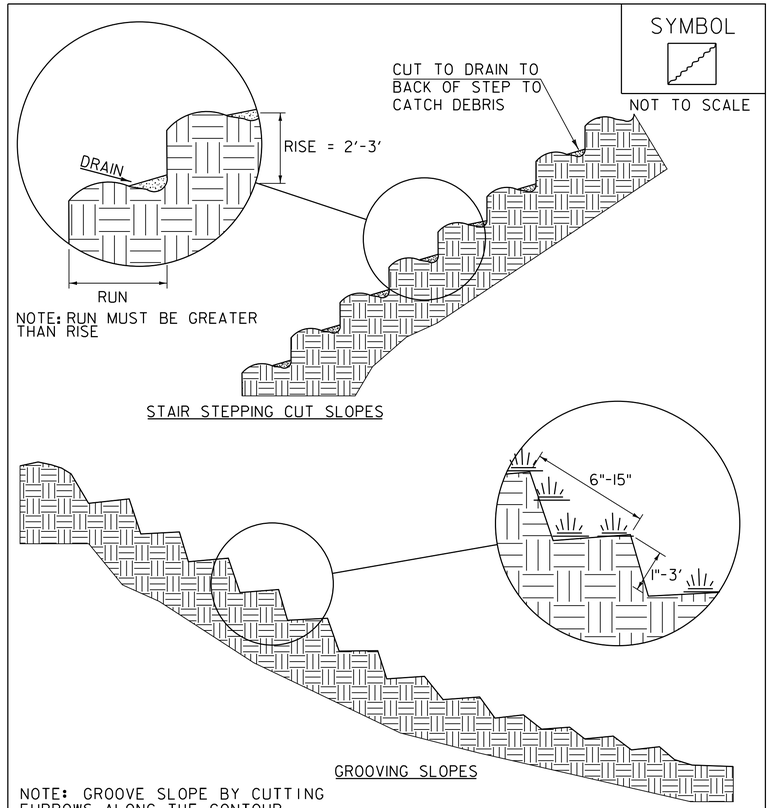
TURF ESTABLISHMENT

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 651 FOR SEED (PAY ITEM 651.15)

REVISIONS	
JANUARY 12, 2015	WHF

SYMBOL

NOT TO SCALE



NOTE: GROOVE SLOPE BY CUTTING FURROWS ALONG THE CONTOUR. IRREGULARITIES IN THE SOIL SURFACE CATCH RAINWATER AND RETAIN LIME, FERTILIZER AND SEED.

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC ORIGINALLY DEVELOPED BY USDA-NRCS VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SURFACE ROUGHENING

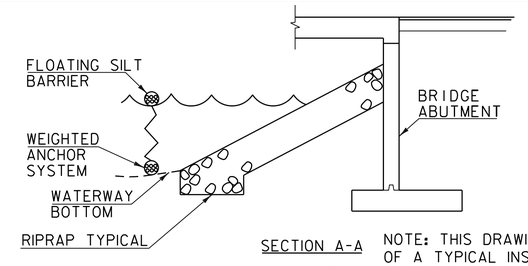
NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- " FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT

REVISIONS	
APRIL 1, 2008	WHF
JANUARY 13, 2009	WHF

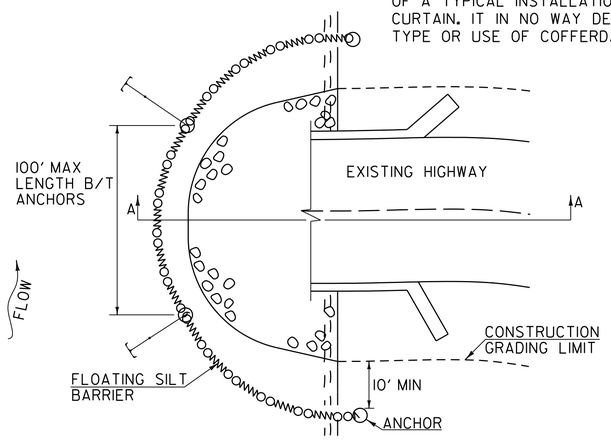
SYMBOL

NOT TO SCALE



SECTION A-A

NOTE: THIS DRAWING IS A DEPICTION OF A TYPICAL INSTALLATION OF FILTER CURTAIN. IT IN NO WAY DEFINES THE TYPE OR USE OF COFFERDAM IF USED.



CONSTRUCTION SPECIFICATIONS

1. FILTER CURTAIN SHALL NOT BE PLACED ACROSS A FLOWING WATERWAY, OR IN A WATERWAY WITH STREAM VELOCITIES GREATER THAN 1.5 FEET/SECOND.
2. MAXIMUM 100' LENGTH BETWEEN ANCHORS.
3. LAST SECTION SHALL TERMINATE A MINIMUM OF 10' BEYOND LIMIT OF DISTURBANCE.
4. THE WEIGHTED ANCHOR SYSTEM SHALL BE A TYPE WHICH ALLOWS THE CURTAIN TO CONFORM TO THE BOTTOM OF THE WATERWAY.
5. THE CURTAIN SHALL BE REMOVED BY SLOWLY PULLING TOWARD THE SHORE MINIMIZING THE ESCAPE OF SEDIMENTS INTO WATERWAY.

FILTER CURTAIN

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 649 FOR GEOTEXTILE FOR FILTER CURTAIN (PAY ITEM 649.61).

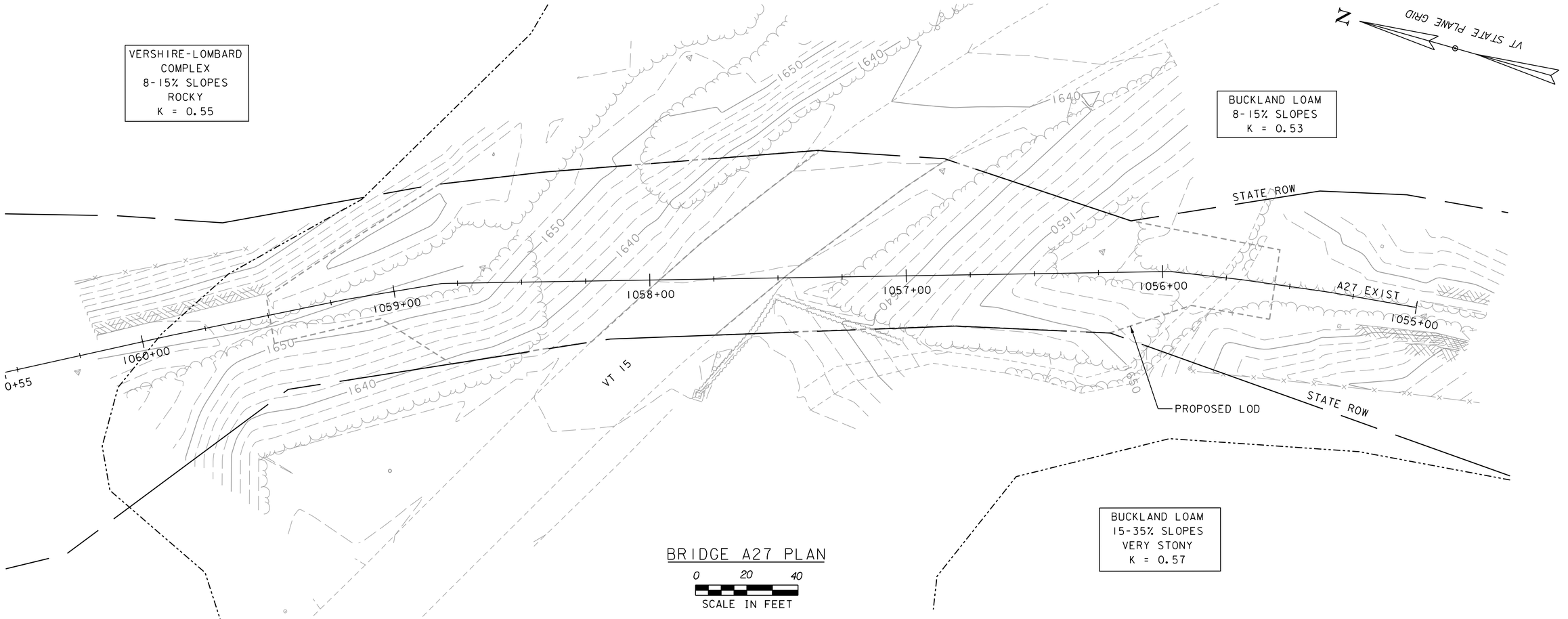
REVISIONS	
APRIL 1, 2008	WHF
JANUARY 13, 2009	WHF
SEPTEMBER 4, 2009	WHF

vhb

PROJECT NAME: SWANTON - ST. JOHNSBURY
PROJECT NUMBER: STP LVRT(10)

FILE NAME: z20f232_EPSC_det.dgn
PROJECT LEADER: E.P. DETRICK
DESIGNED BY: VTRANS
EPSC DETAIL SHEET

PLOT DATE: 6/2/2021
DRAWN BY: VTRANS
CHECKED BY: B.M. ROBERTS
SHEET 56 OF 99

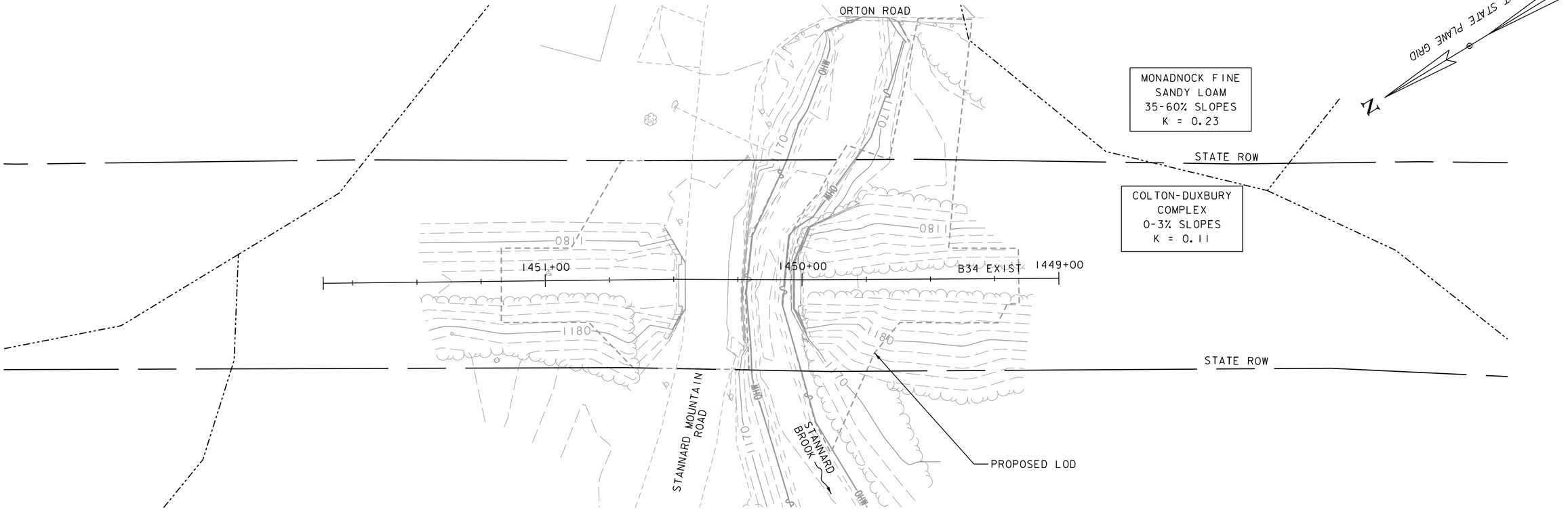


BRIDGE A27 PLAN

0 20 40

SCALE IN FEET

PROJECT NAME:	SWANTON - ST. JOHNSBURY
PROJECT NUMBER:	STP LVRT(10)
FILE NAME: bdr_nul.dgn	PLOT DATE: 6/2/2021
PROJECT LEADER: E.P. DETRICK	DRAWN BY: S.E. GEARY
DESIGNED BY: W.P. RAUSEO	CHECKED BY: J.D. KEENER
BRIDGE A27 EPSC EXISTING CONDITIONS	SHEET 57 OF 99



BRIDGE 34 PLAN

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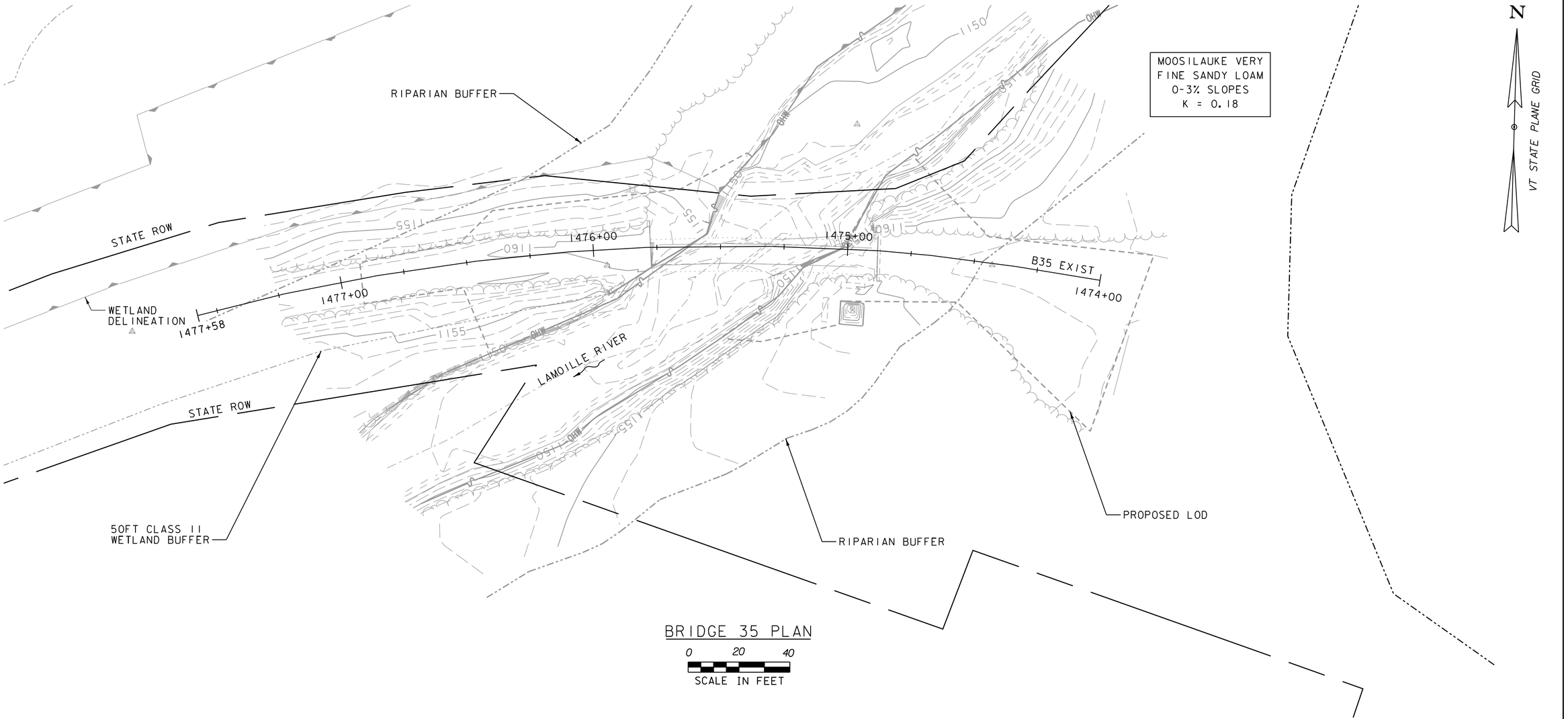
SCALE IN FEET

PROJECT NAME:	SWANTON - ST. JOHNSBURY
PROJECT NUMBER:	STP LVRT(10)
FILE NAME: bdr_nul.dgn	PLOT DATE: 6/2/2021
PROJECT LEADER: E.P. DETRICK	DRAWN BY: S.E. GEARY
DESIGNED BY: W.P. RAUSEO	CHECKED BY: J.D. KEENER
BRIDGE 34 EPSC EXISTING CONDITIONS	SHEET 58 OF 99

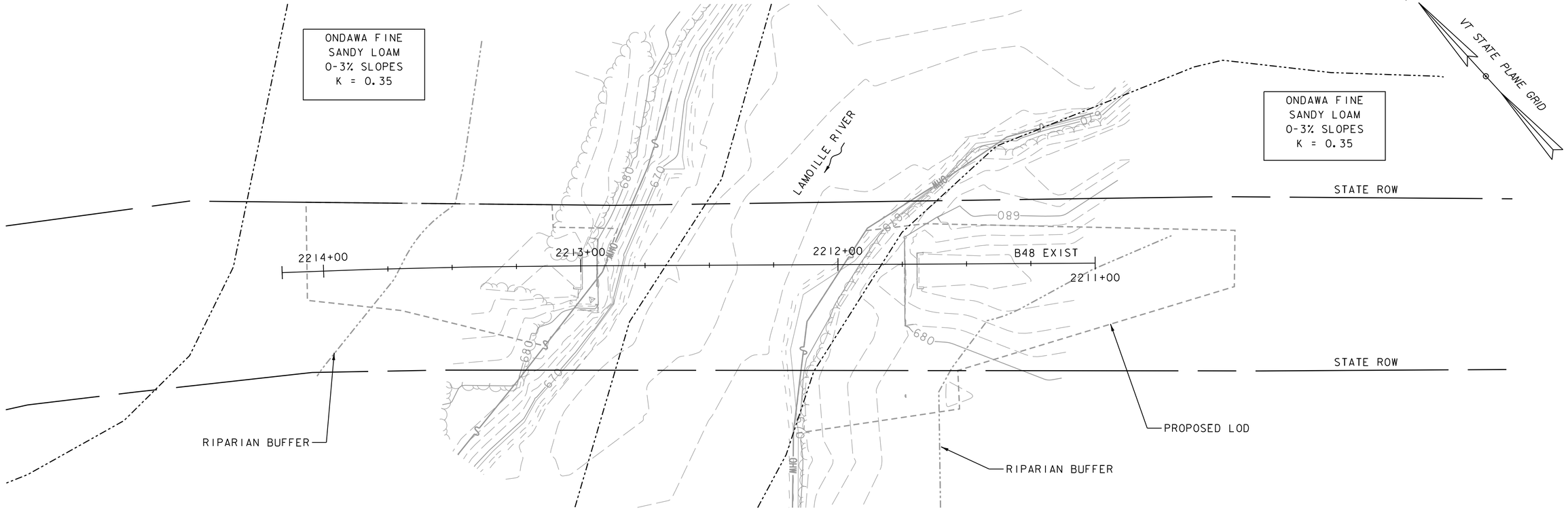


BRIDGE 35 PLAN

0 20 40

SCALE IN FEET

PROJECT NAME:	SWANTON - ST. JOHNSBURY
PROJECT NUMBER:	STP LVRT(10)
FILE NAME: bdr_nul.dgn	PLOT DATE: 6/2/2021
PROJECT LEADER: E.P. DETRICK	DRAWN BY: S.E. GEARY
DESIGNED BY: W.P. RAUSEO	CHECKED BY: J.D. KEENER
BRIDGE 35 EPSC EXISTING CONDITIONS	SHEET 59 OF 99

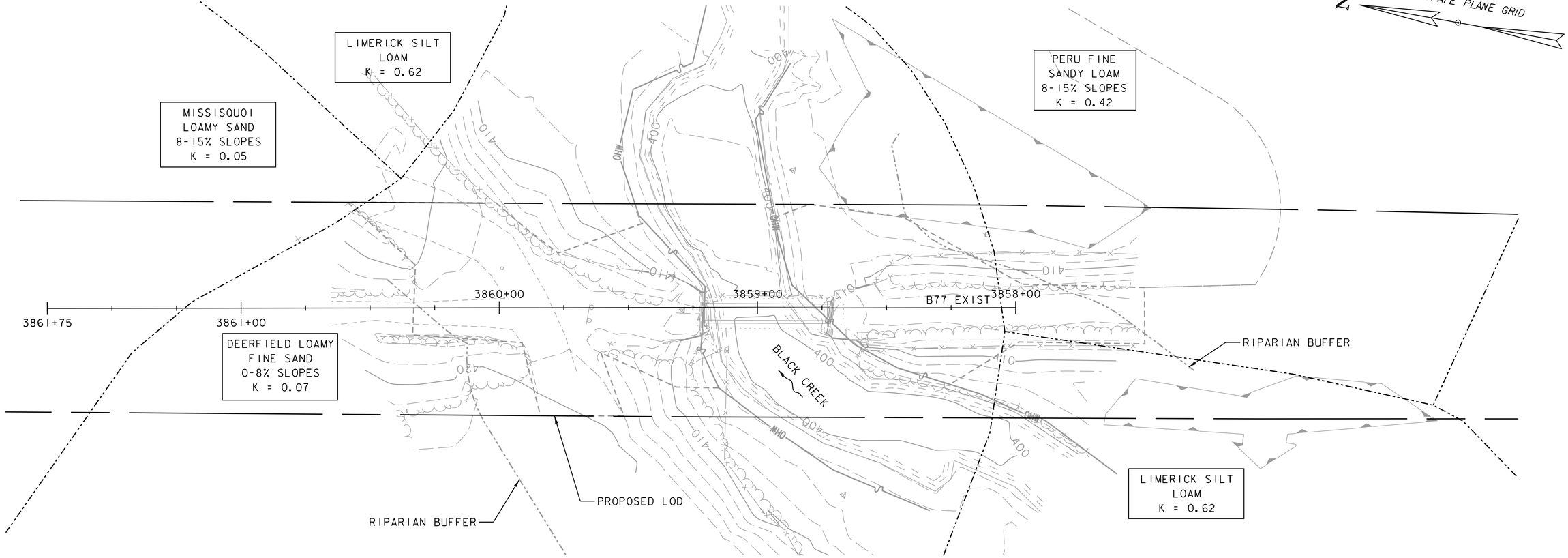


BRIDGE 48 PLAN

0 20 40

SCALE IN FEET

PROJECT NAME:	SWANTON - ST. JOHNSBURY
PROJECT NUMBER:	STP LVRT (10)
FILE NAME: bdr_nul.dgn	PLOT DATE: 6/2/2021
PROJECT LEADER: E.P. DETRICK	DRAWN BY: S.E. GEARY
DESIGNED BY: W.P. RAUSEO	CHECKED BY: J.D. KEENER
BRIDGE 48 EPSC EXISTING CONDITIONS	SHEET 60 OF 99



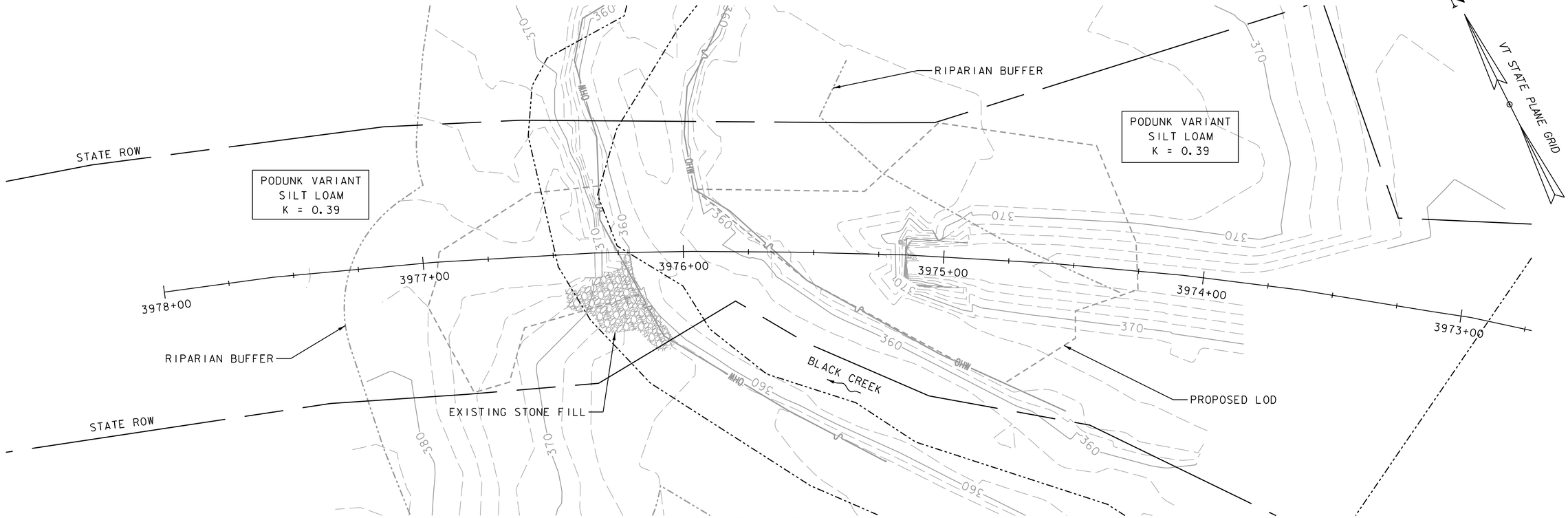
BRIDGE 77 PLAN

0 20 40

SCALE IN FEET

PROJECT NAME:	SWANTON - ST. JOHNSBURY
PROJECT NUMBER:	STP LVRT(10)

FILE NAME: bdr_nul.dgn	PLOT DATE: 6/2/2021
PROJECT LEADER: E.P. DETRICK	DRAWN BY: S.E. GEARY
DESIGNED BY: W.P. RAUSEO	CHECKED BY: J.D. KEENER
BRIDGE 77 EPSC EXISTING CONDITIONS	SHEET 61 OF 99

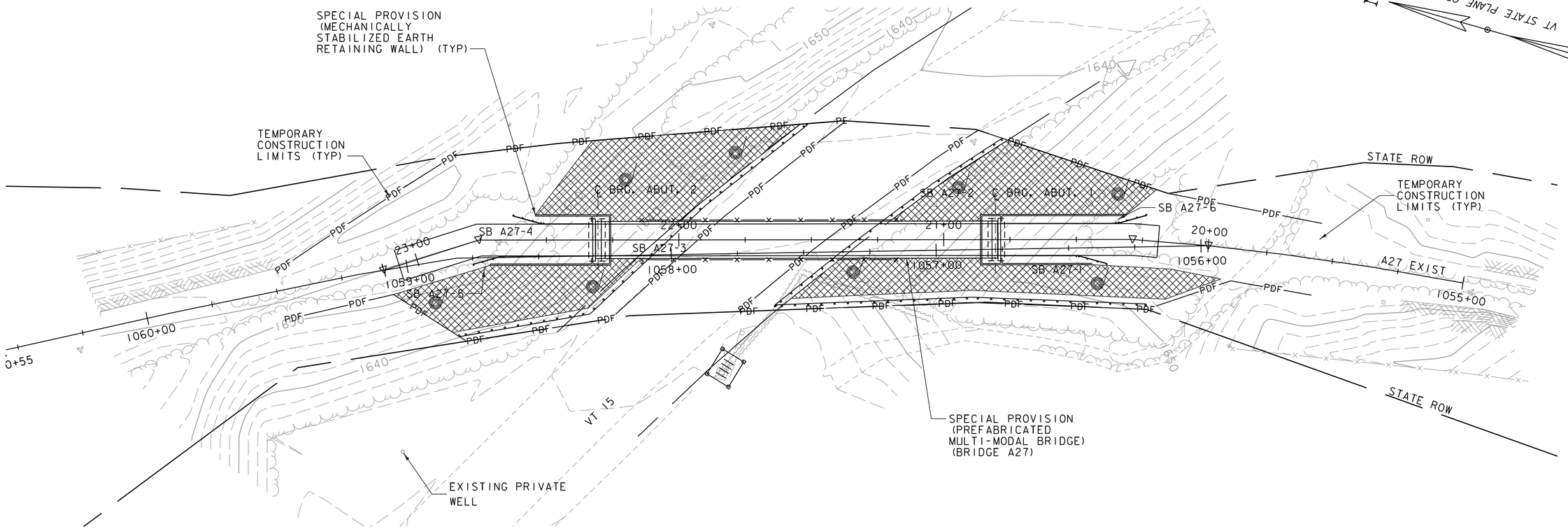


BRIDGE 83 PLAN

0 20 40

SCALE IN FEET

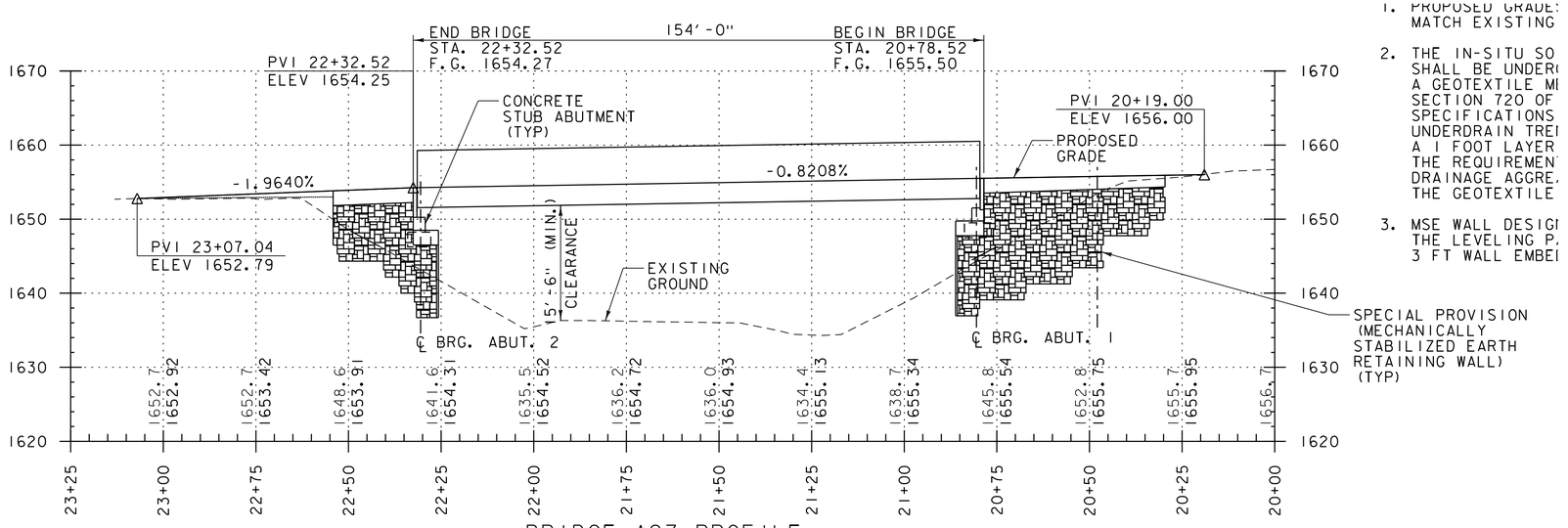
PROJECT NAME:	SWANTON - ST. JOHNSBURY
PROJECT NUMBER:	STP LVRT (10)
FILE NAME: bdr_nul.dgn	PLOT DATE: 6/2/2021
PROJECT LEADER: E.P. DETRICK	DRAWN BY: S.E. GEARY
DESIGNED BY: W.P. RAUSEO	CHECKED BY: J.D. KEENER
BRIDGE 83 EPSC EXISTING CONDITIONS	SHEET 62 OF 99



BRIDGE A27 PLAN

0 20 40

SCALE IN FEET

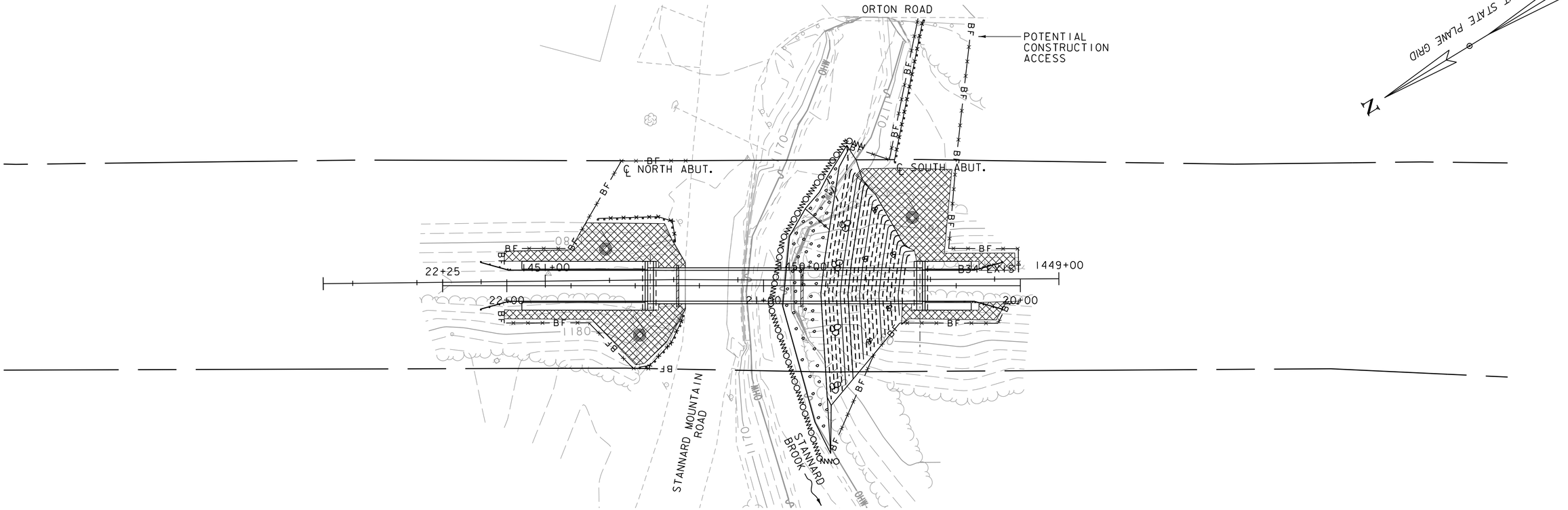


BRIDGE A27 PROFILE

SCALE HORIZTONAL 1" = 20'
VERTICAL 1" = 10'

1. PROPOSED GRADE: MATCH EXISTING
2. THE IN-SITU SO SHALL BE UNDER(A GEOTEXTILE MI SECTION 720 OF SPECIFICATIONS UNDERDRAIN TREI A 1 FOOT LAYER THE REQUIREMEN DRAINAGE AGGRE. THE GEOTEXTILE
3. MSE WALL DESIGI THE LEVELING P. 3 FT WALL EMBEI

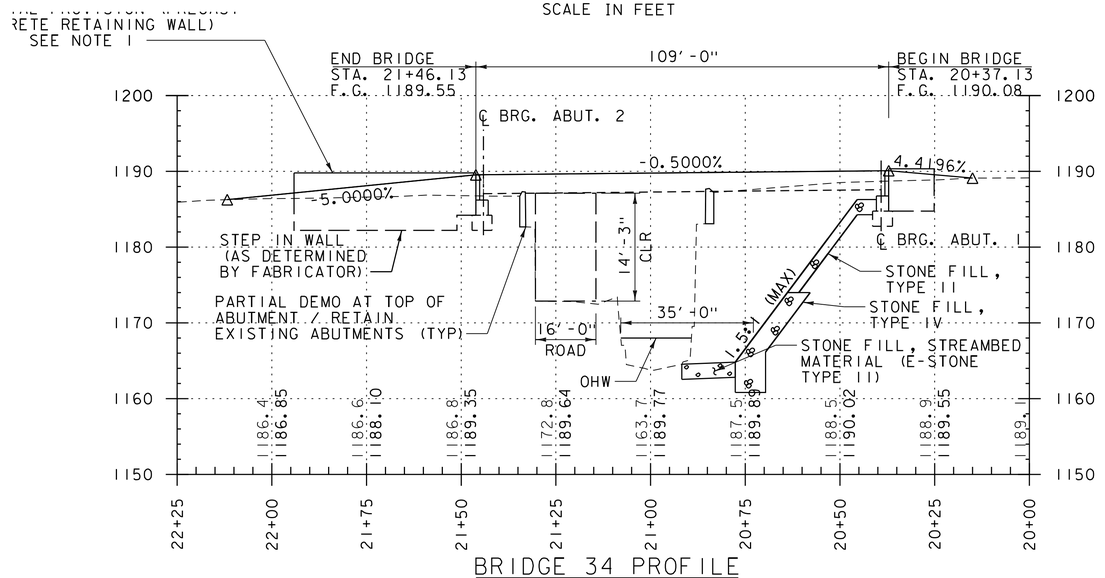
PROJECT NAME:	SWANTON - ST. JOHNSBURY
PROJECT NUMBER:	STP LVRT(10)
FILE NAME: bdr_nul.dgn	PLOT DATE: 6/2/2021
PROJECT LEADER: E.P. DETRICK	DRAWN BY: S.E. GEARY
DESIGNED BY: W.P. RAUSEO	CHECKED BY: J.D. KEENER
BRIDGE A27 EPSC CONSTRUCTION CONDITIONS	SHEET 63 OF 99



BRIDGE 34 PLAN

0 20 40

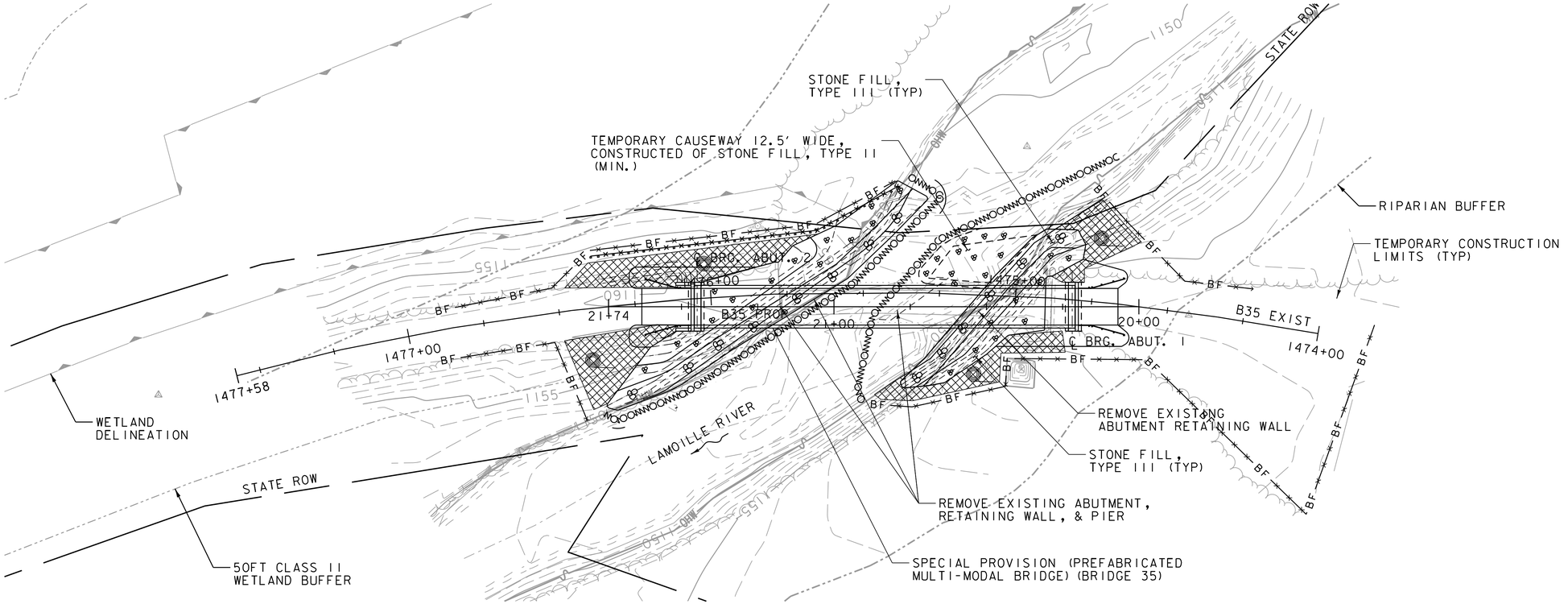
SCALE IN FEET



BRIDGE 34 PROFILE

SCALE HORIZTONAL 1" = 20'
VERTICAL 1" = 10'

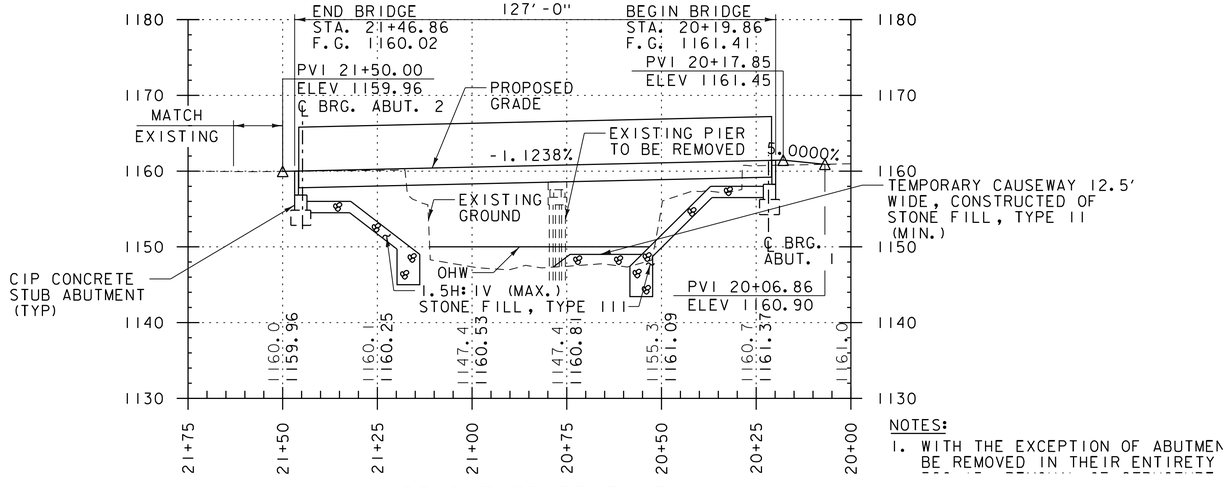
PROJECT NAME:	SWANTON - ST. JOHNSBURY
PROJECT NUMBER:	STP LVRT(10)
FILE NAME: bdr_nul.dgn	PLOT DATE: 6/2/2021
PROJECT LEADER: E.P. DETRICK	DRAWN BY: S.E. GEARY
DESIGNED BY: W.P. RAUSEO	CHECKED BY: J.D. KEENER
BRIDGE 34 EPSC CONSTRUCTION CONDITIONS	SHEET 64 OF 99



BRIDGE 35 PLAN

0 20 40

SCALE IN FEET



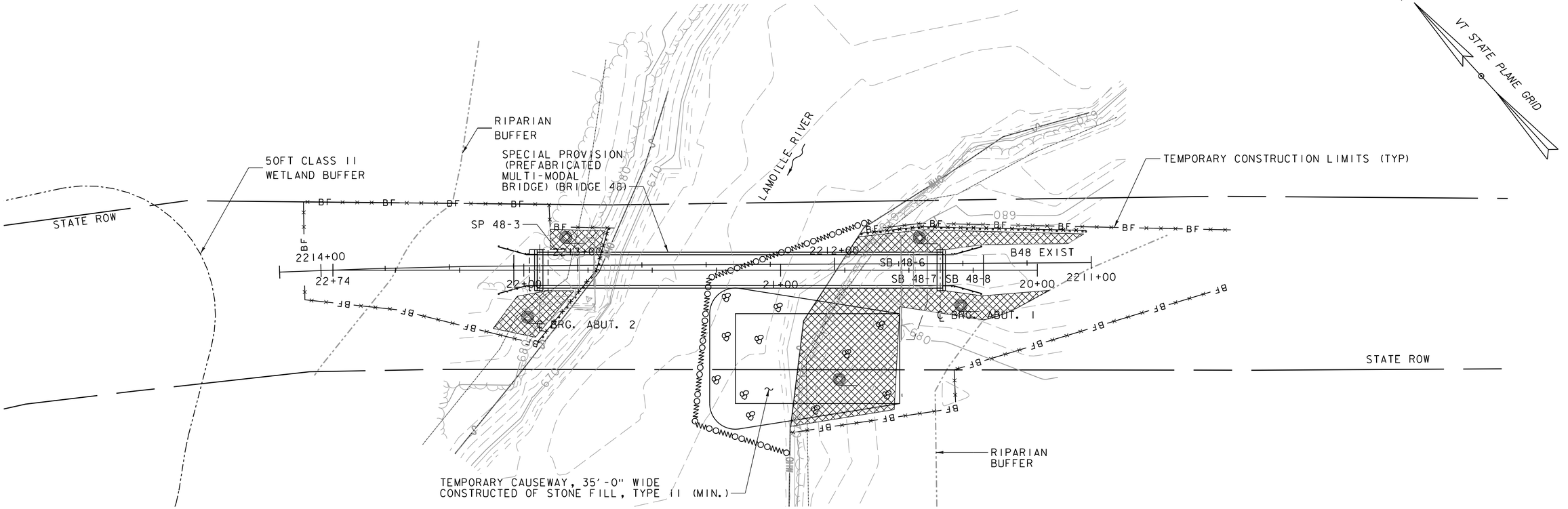
BRIDGE 35 PROFILE

SCALE HORIZTONAL 1" = 20'
VERTICAL 1" = 10'

NOTES:

1. WITH THE EXCEPTION OF ABUTMEN
BE REMOVED IN THEIR ENTIRETY

PROJECT NAME:	SWANTON - ST. JOHNSBURY
PROJECT NUMBER:	STP LVRT(10)
FILE NAME: bdr_nul.dgn	PLOT DATE: 6/2/2021
PROJECT LEADER: E.P. DETRICK	DRAWN BY: S.E. GEARY
DESIGNED BY: W.P. RAUSEO	CHECKED BY: J.D. KEENER
BRIDGE 35 EPSC CONSTRUCTION CONDITIONS	SHEET 65 OF 99



BRIDGE 48 PLAN

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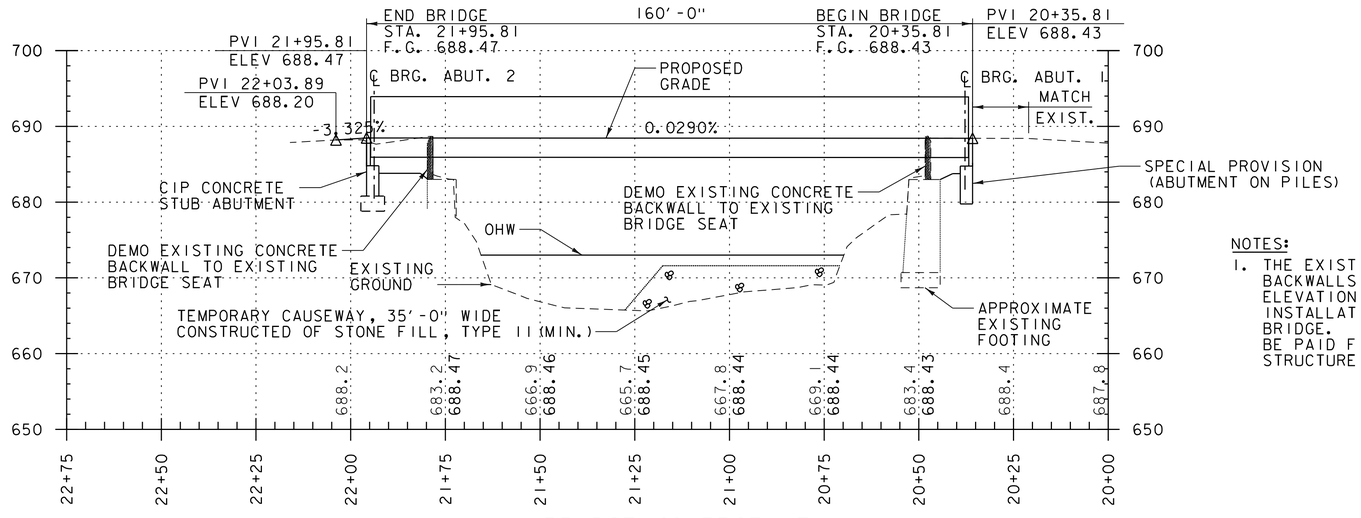
SCALE IN FEET



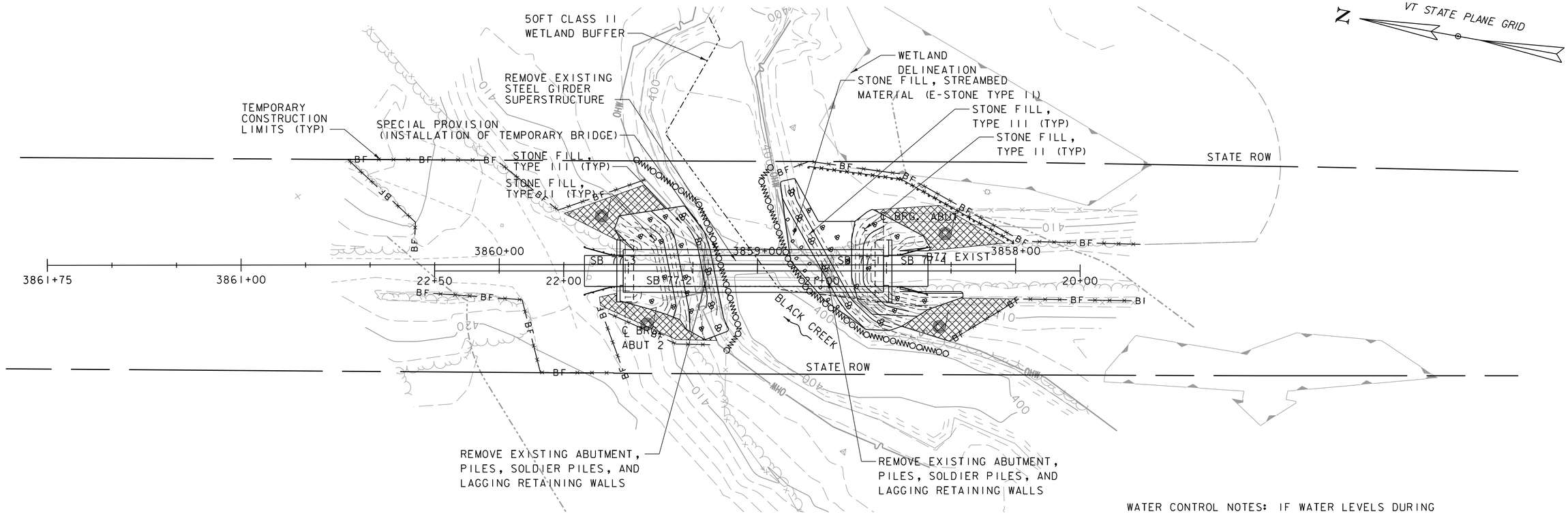
NOTES:

1. THE EXIST BACKWALLS ELEVATION INSTALLAT BRIDGE. BE PAID F STRUCTURE

BRIDGE 48 PROFILE

SCALE HORIZTONAL 1" = 20'
VERTICAL 1" = 10'

PROJECT NAME:	SWANTON - ST. JOHNSBURY
PROJECT NUMBER:	STP LVRT (10)
FILE NAME: bdr_nul.dgn	PLOT DATE: 6/2/2021
PROJECT LEADER: E.P. DETRICK	DRAWN BY: S.E. GEARY
DESIGNED BY: W.P. RAUSEO	CHECKED BY: J.D. KEENER
BRIDGE 48 EPSC CONSTRUCTION CONDITIONS	SHEET 66 OF 99

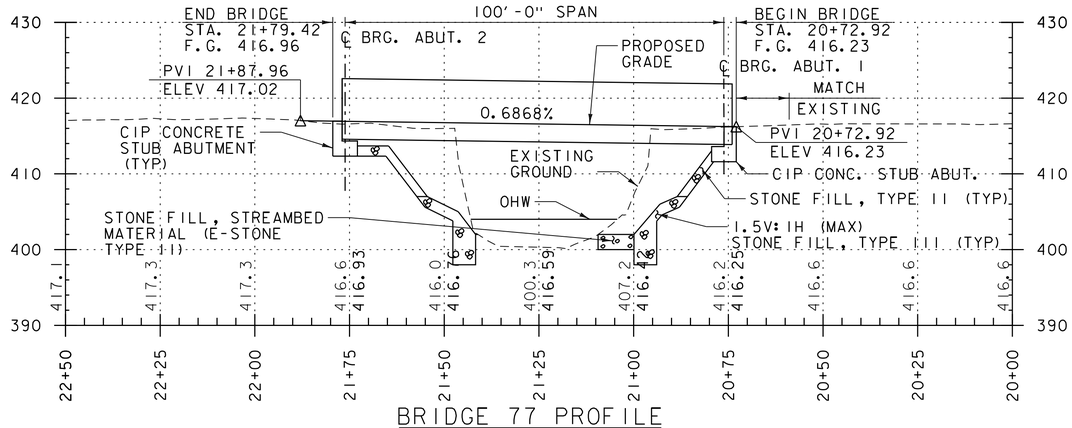


BRIDGE 77 PLAN

0 20 40

SCALE IN FEET

WATER CONTROL NOTES: IF WATER LEVELS DURING CONSTRUCTION ARE BELOW THE WORK AREA OR ARE INSUFFICIENT TO FLOAT SILT CURTAIN, USE ALTERNATIVE SEDIMENT CONTROL MEASURES.



BRIDGE 77 PROFILE

SCALE HORIZTONAL 1" = 20'
VERTICAL 1" = 10'

NOTES:

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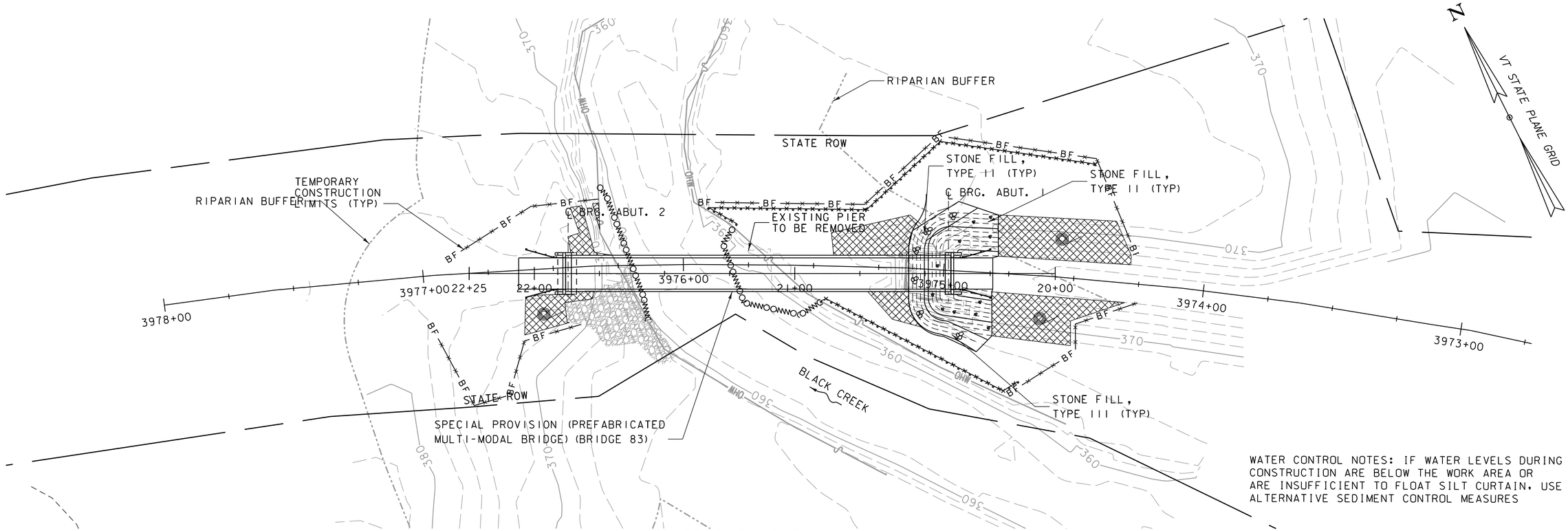
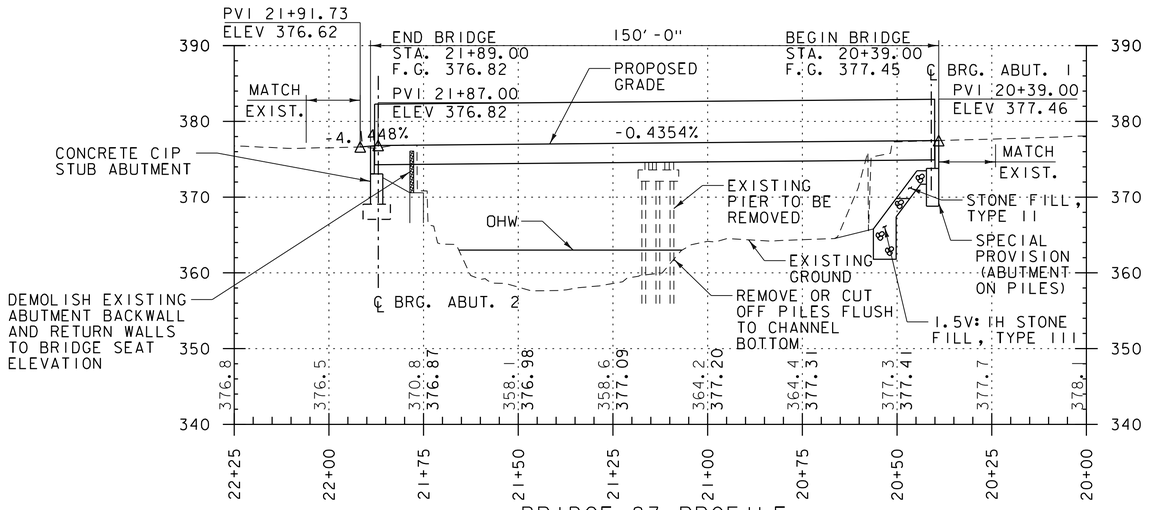
PROJECT NAME:	SWANTON - ST. JOHNSBURY
PROJECT NUMBER:	STP LVRT(10)
FILE NAME: bdr_nul.dgn	PLOT DATE: 6/2/2021
PROJECT LEADER: E.P. DETRICK	DRAWN BY: S.E. GEARY
DESIGNED BY: W.P. RAUSEO	CHECKED BY: J.D. KEENER
BRIDGE 77 EPSC CONSTRUCTION CONDITIONS	SHEET 67 OF 99



BRIDGE 83 PLAN

0 20 40

SCALE IN FEET



BRIDGE 83 PROFILE

SCALE HORIZTONAL 1" = 20'
VERTICAL 1" = 10'

NOTES:

1. WITH THE EX
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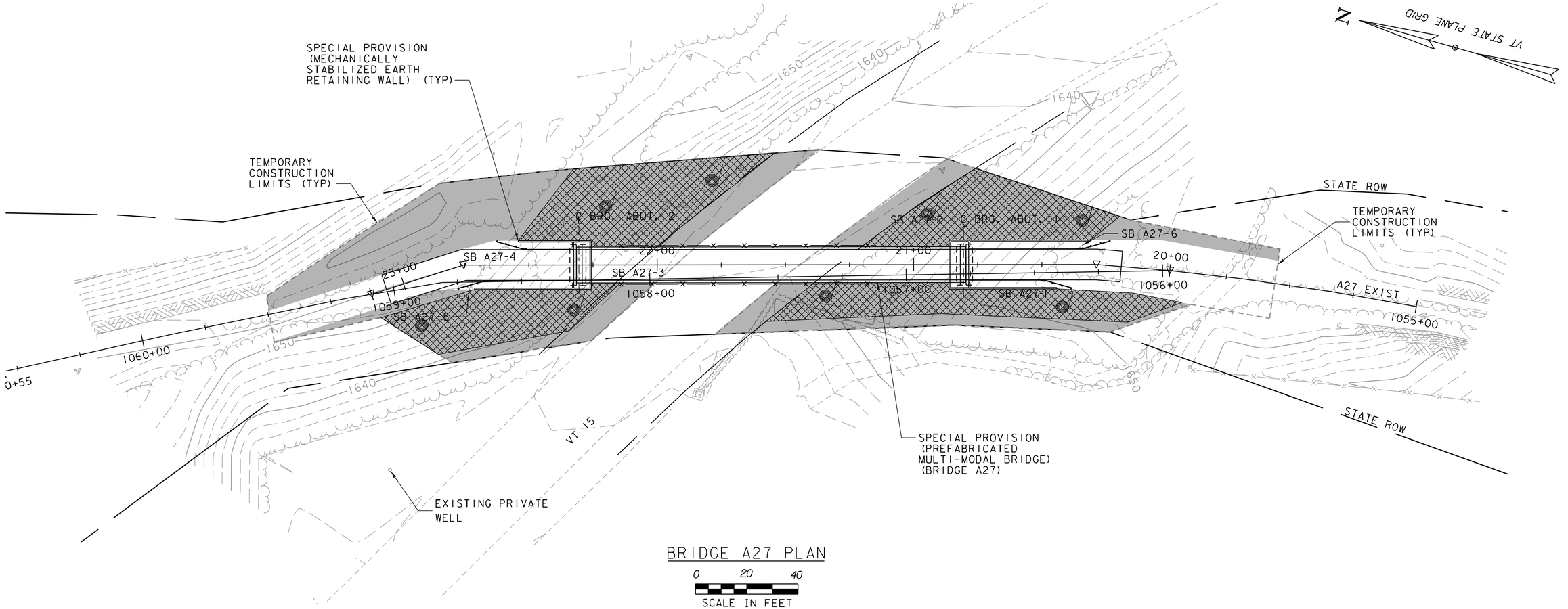
WATER CONTROL NOTES: IF WATER LEVELS DURING CONSTRUCTION ARE BELOW THE WORK AREA OR ARE INSUFFICIENT TO FLOAT SILT CURTAIN, USE ALTERNATIVE SEDIMENT CONTROL MEASURES

PROJECT NAME:	SWANTON - ST. JOHNSBURY
PROJECT NUMBER:	STP LVRT (10)
FILE NAME: bdr_nul.dgn	PLOT DATE: 6/2/2021
PROJECT LEADER: E.P. DETRICK	DRAWN BY: S.E. GEARY
DESIGNED BY: W.P. RAUSEO	CHECKED BY: J.D. KEENER
BRIDGE 83 EPSC CONSTRUCTION CONDITIONS	SHEET 68 OF 99

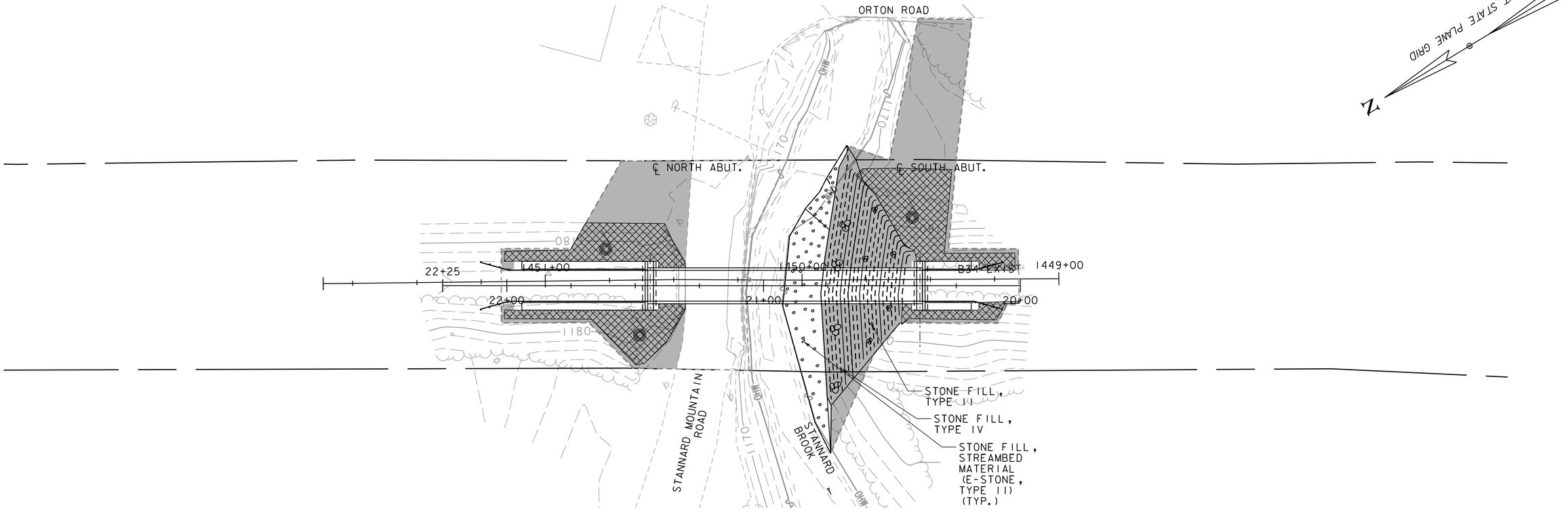


BRIDGE A27 PLAN

0 20 40

SCALE IN FEET

PROJECT NAME:	SWANTON - ST. JOHNSBURY
PROJECT NUMBER:	STP LVRT(10)
FILE NAME: bdr_nul.dgn	PLOT DATE: 6/2/2021
PROJECT LEADER: E.P. DETRICK	DRAWN BY: S.E. GEARY
DESIGNED BY: W.P. RAUSEO	CHECKED BY: J.D. KEENER
BRIDGE A27 EPSC FINAL STABILIZATION	SHEET 69 OF 99

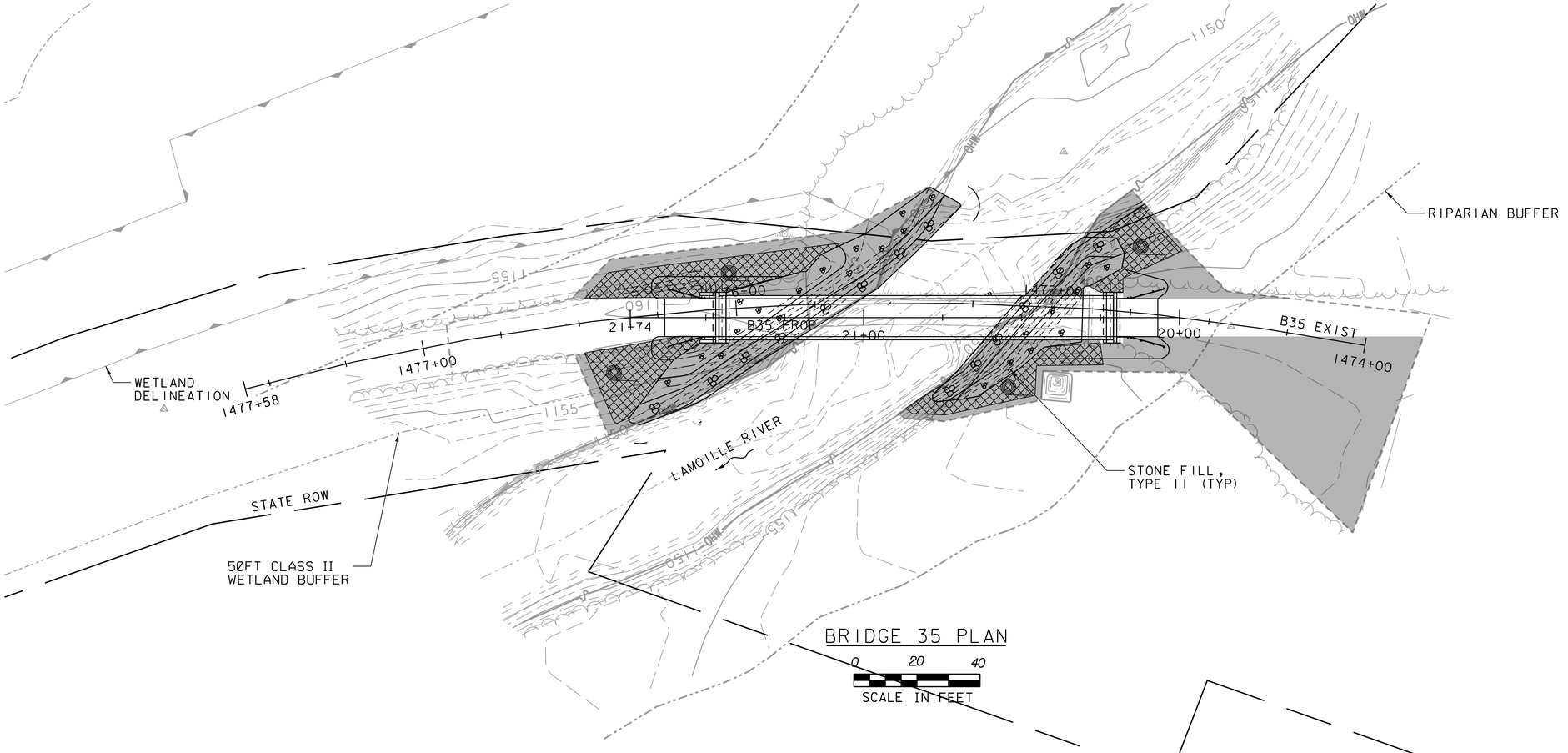


BRIDGE 34 PLAN

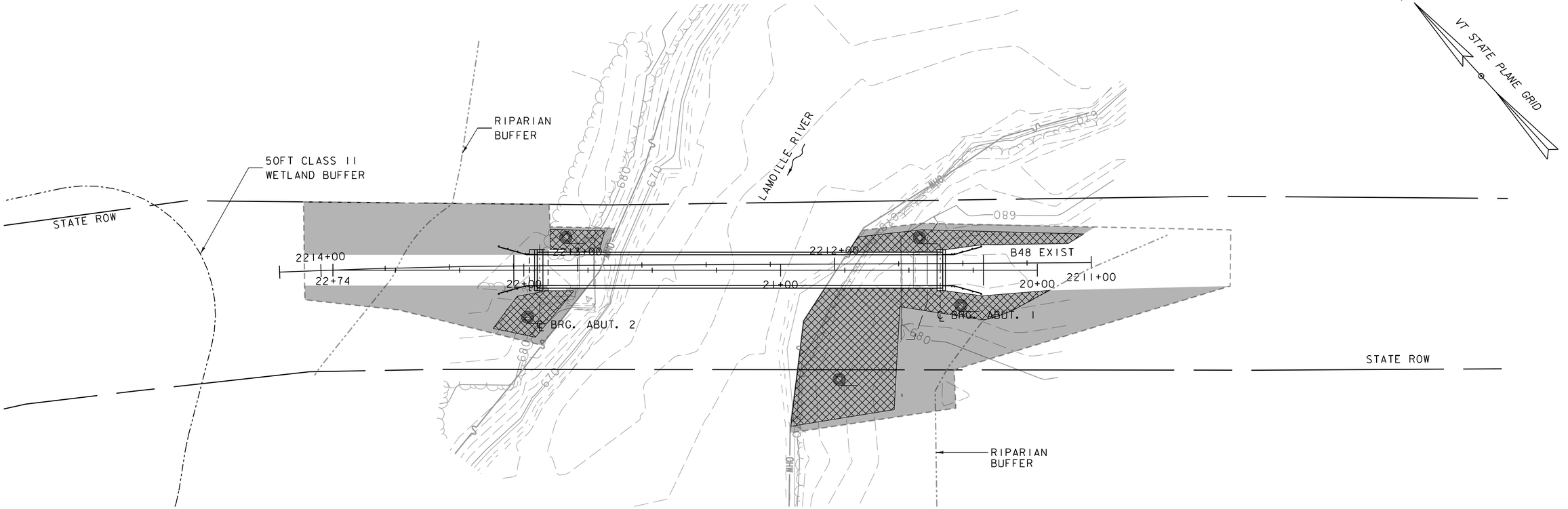
0 20 40

SCALE IN FEET

PROJECT NAME:	SWANTON - ST. JOHNSBURY
PROJECT NUMBER:	STP LVRT(10)
FILE NAME: bdr_nul.dgn	PLOT DATE: 6/2/2021
PROJECT LEADER: E.P. DETRICK	DRAWN BY: S.E. GEARY
DESIGNED BY: W.P. RAUSEO	CHECKED BY: J.D. KEENER
BRIDGE 34 EPSC FINAL STABILIZATION	SHEET 70 OF 99



PROJECT NAME:	SWANTON - ST. JOHNSBURY
PROJECT NUMBER:	STP LVRT(10)
FILE NAME: bdr_nul.dgn	PLOT DATE: 6/2/2021
PROJECT LEADER: E.P. DETRICK	DRAWN BY: S.E. GEARY
DESIGNED BY: W.P. RAUSEO	CHECKED BY: J.D. KEENER
BRIDGE 35 EPSC FINAL STABILIZATION	SHEET 71 OF 99

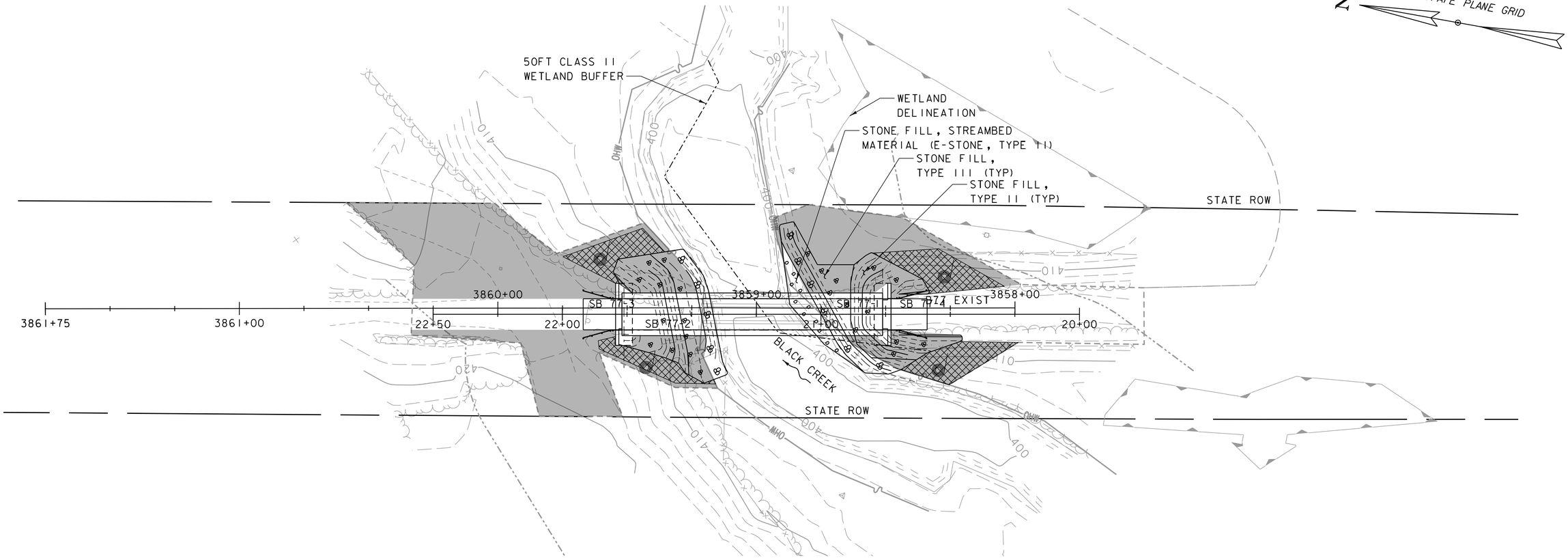


BRIDGE 48 PLAN

0 20 40

SCALE IN FEET

PROJECT NAME:	SWANTON - ST. JOHNSBURY
PROJECT NUMBER:	STP LVRT (10)
FILE NAME: bdr_nul.dgn	PLOT DATE: 6/2/2021
PROJECT LEADER: E.P. DETRICK	DRAWN BY: S.E. GEARY
DESIGNED BY: W.P. RAUSEO	CHECKED BY: J.D. KEENER
BRIDGE 48 EPSC FINAL STABILIZATION	SHEET 72 OF 99

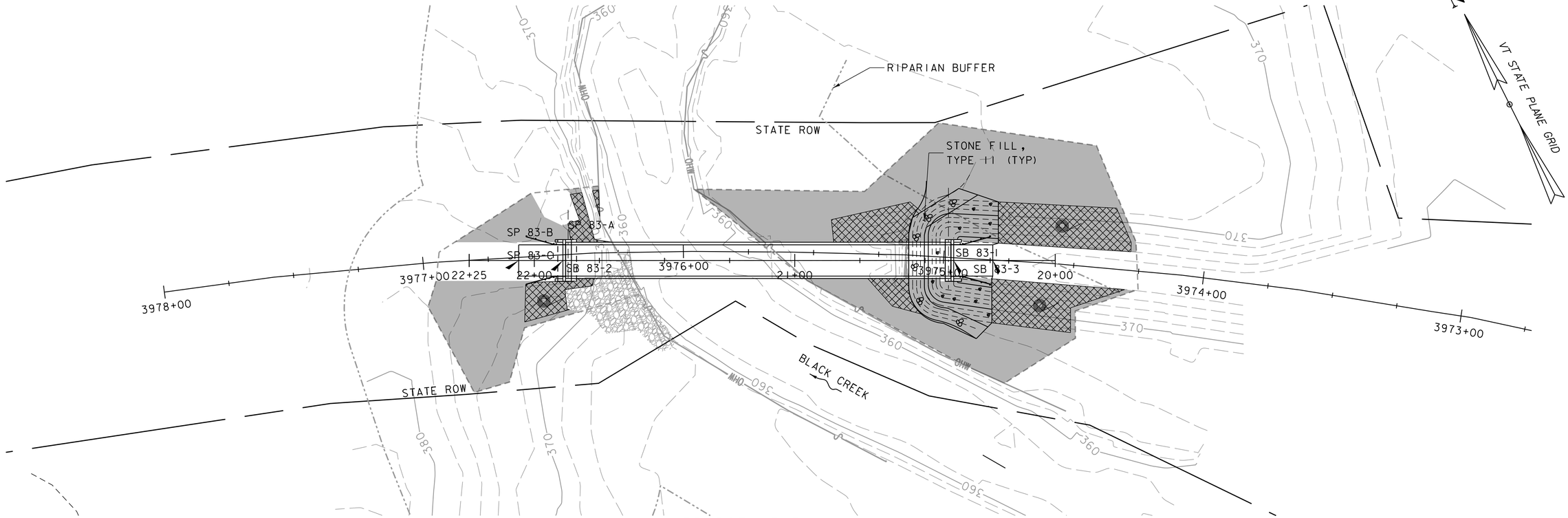


BRIDGE 77 PLAN

0 20 40

SCALE IN FEET

PROJECT NAME:	SWANTON - ST. JOHNSBURY
PROJECT NUMBER:	STP LVRT(10)
FILE NAME: bdr_nul.dgn	PLOT DATE: 6/2/2021
PROJECT LEADER: E.P. DETRICK	DRAWN BY: S.E. GEARY
DESIGNED BY: W.P. RAUSEO	CHECKED BY: J.D. KEENER
BRIDGE 77 EPSC FINAL STABILIZATION	SHEET 73 OF 99

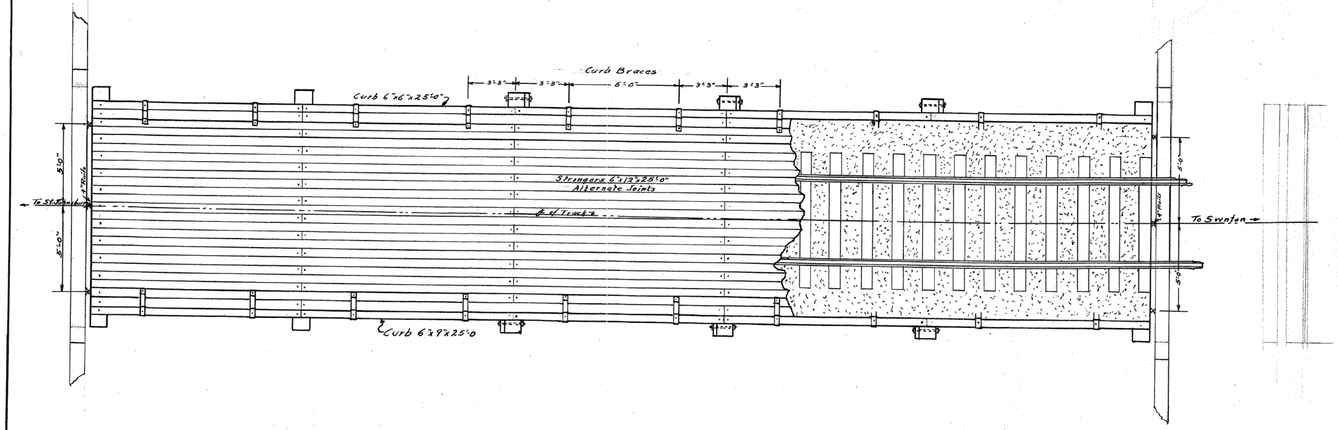


BRIDGE 83 PLAN

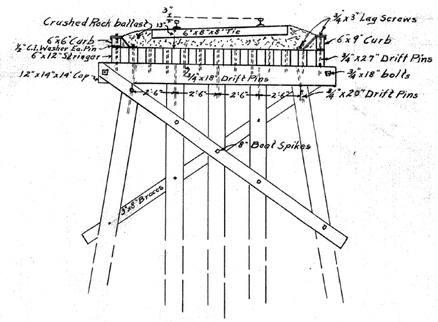
0 20 40

SCALE IN FEET

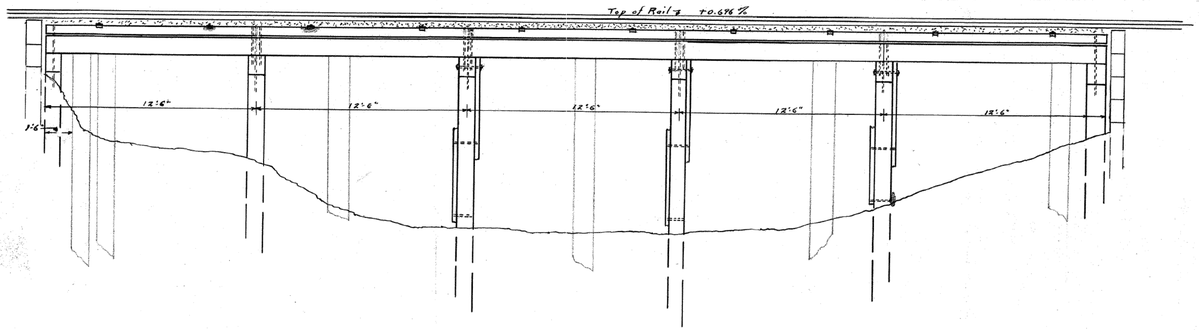
PROJECT NAME:	SWANTON - ST. JOHNSBURY
PROJECT NUMBER:	STP LVRT (10)
FILE NAME: bdr_nul.dgn	PLOT DATE: 6/2/2021
PROJECT LEADER: E.P. DETRICK	DRAWN BY: S.E. GEARY
DESIGNED BY: W.P. RAUSEO	CHECKED BY: J.D. KEENER
BRIDGE 83 EPSC FINAL STABILIZATION	SHEET 74 OF 99



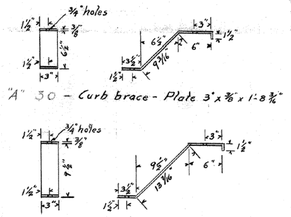
Scale ¼"=1'-0"



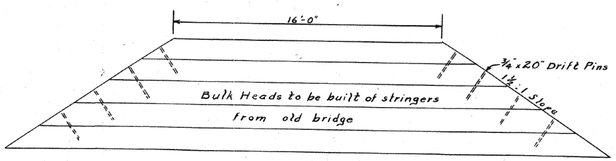
Scale ¼" = 1'-0"



Scale ¼"=1'-0"



Scale 1"=1'-0"



Scale ¼"=1'-0"

Note - Old work shown in light lines
New work shown in heavy lines

BRIDGE 27 MP 16.94

The St Johnsbury & Lake Champlain Railroad Company
BRIDGE #27
2 Miles West of West Danville

August 1939
Scales as Shown
Drawn by H.F.E.
Traced by J.C.W.
Checked by J.C.W.
Approved J. Alexander
Chief Engineer

1-9-4

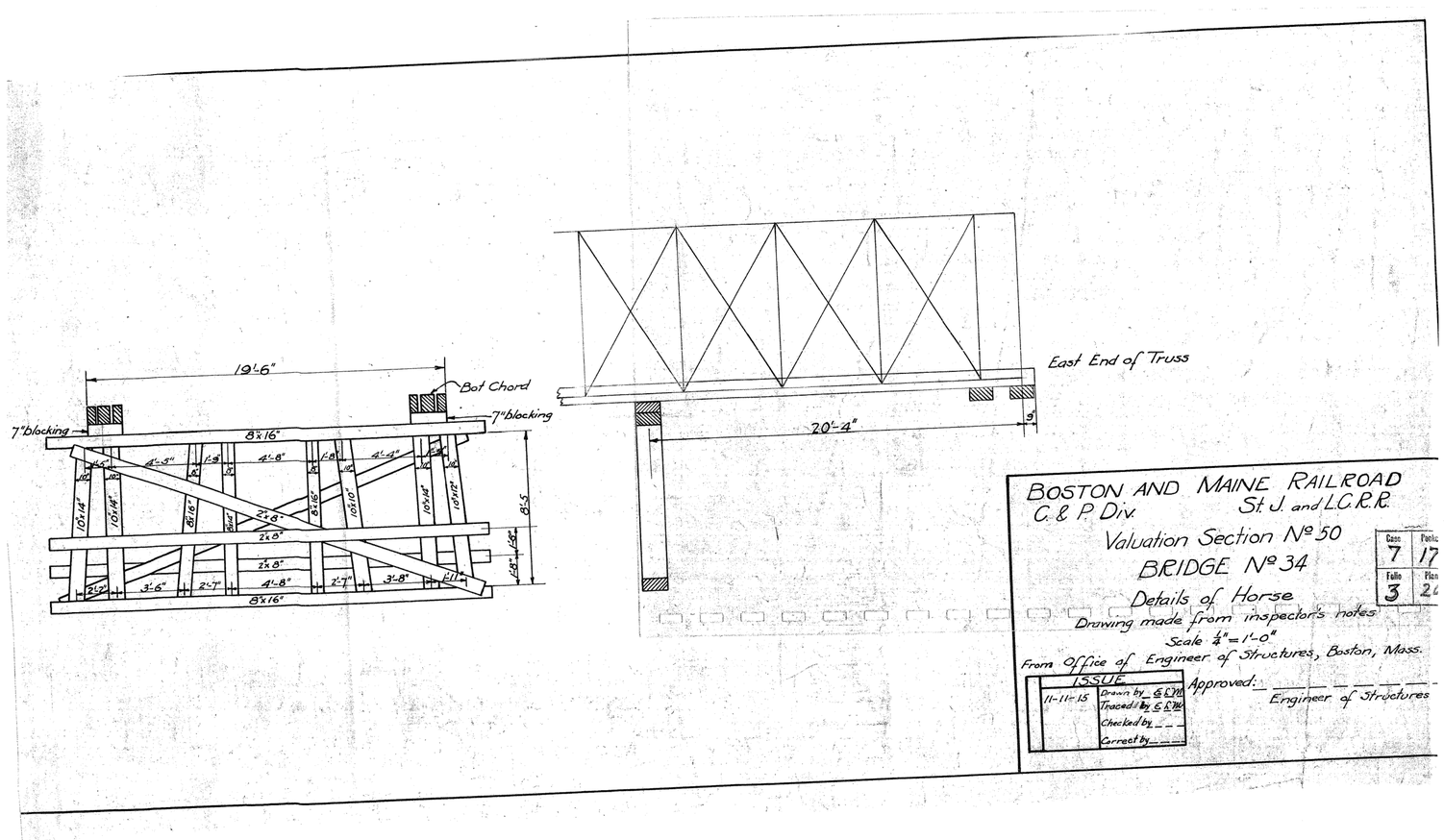
50-34

BRIDGE NO. A27
NOT TO SCALE

FOR REFERENCE ONLY

vhb

PROJECT NAME:	SWANTON - ST. JOHNSBURY
PROJECT NUMBER:	STP LVRT(10)
FILE NAME: z20f232refplns.dgn	PLOT DATE: 6/2/2021
PROJECT LEADER: E.P. DETRICK	DRAWN BY:
DESIGNED BY:	CHECKED BY:
BRIDGE A27 REFERENCE PLAN	SHEET 75 OF 99

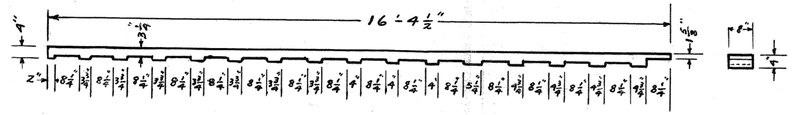


BRIDGE NO. 34
NOT TO SCALE

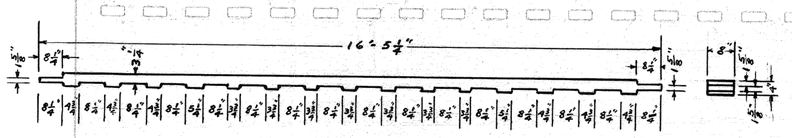
FOR REFERENCE ONLY

vhb

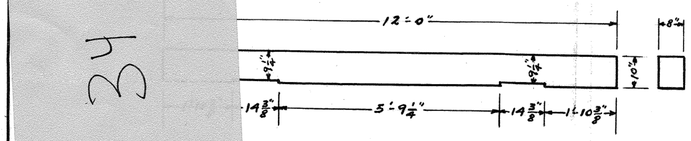
PROJECT NAME:	SWANTON - ST. JOHNSBURY
PROJECT NUMBER:	STP LVRT(10)
FILE NAME: z20f232refplns.dgn	PLOT DATE: 6/2/2021
PROJECT LEADER: E.P. DETRICK	DRAWN BY:
DESIGNED BY:	CHECKED BY:
BRIDGE 34 REFERENCE PLANS (1 OF 6)	SHEET 76 OF 99



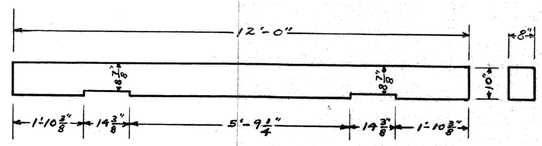
G1 - 4 Pieces



G2 - 2 Pieces



T1 - 20 Ties



T2 - 26 Ties

Note: Ties and Guard Timber to be dapped as shown.

The St. Johnsbury & Lake Champlain Railroad Company

Plan Showing Framing of Ties and Guard Timber

Scale 1/2"=1'

Issue			Drawn by J.G.W.
3	6	44	Traced by J.G.W.
			Checked by H.E.E.

Bridge 34

Greensboro, Vt.

Approved H. A. Earle

Eng. Maint. & Const.

OK

53-161

Plan file 1 Pocket 4 Folder 2

BRIDGE NO. 34

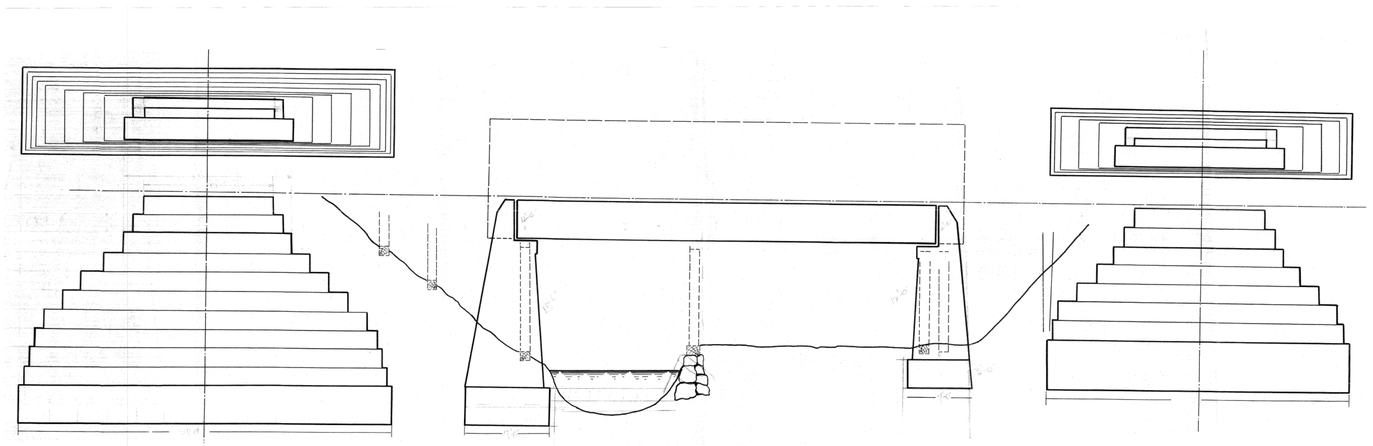
NOT TO SCALE

FOR REFERENCE ONLY

vhb

PROJECT NAME:	SWANTON - ST. JOHNSBURY
PROJECT NUMBER:	STP LVRT(10)

FILE NAME: z20f232refplns.dgn	PLOT DATE: 6/2/2021
PROJECT LEADER: E.P. DETRICK	DRAWN BY:
DESIGNED BY:	CHECKED BY:
BRIDGE 34 REFERENCE PLANS (2 OF 6)	SHEET 77 OF 99



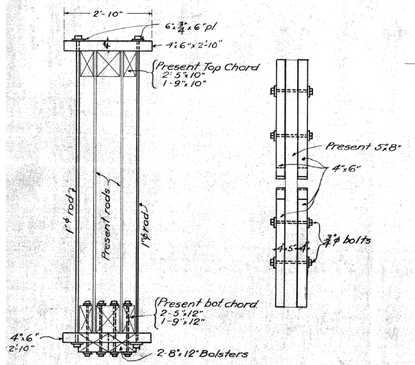
BRIDGE NO. 34
NOT TO SCALE

FOR REFERENCE ONLY

vhb

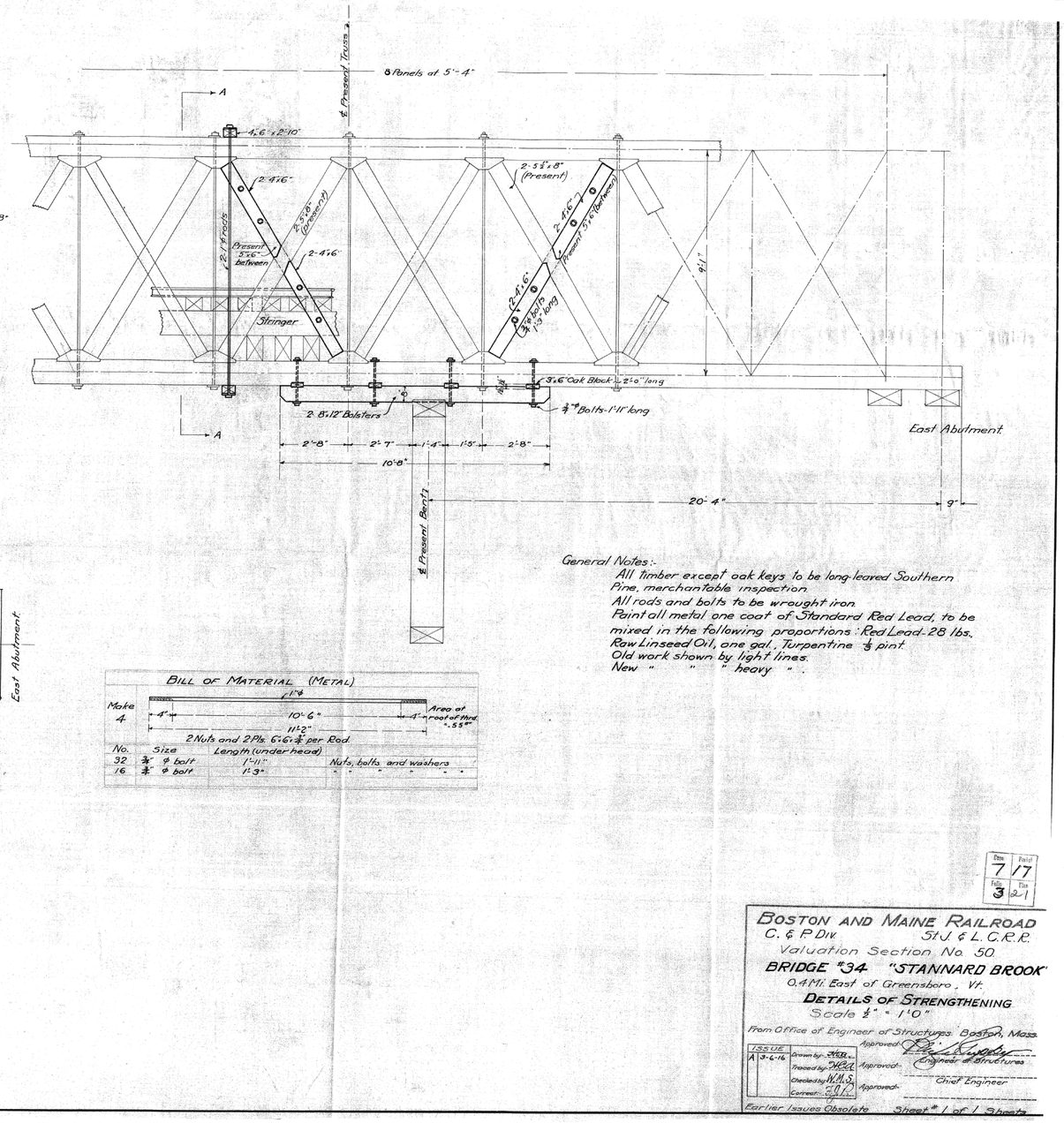
PROJECT NAME:	SWANTON - ST. JOHNSBURY
PROJECT NUMBER:	STP LVRT(10)

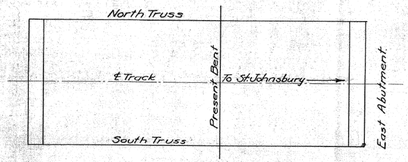
FILE NAME: z20f232refplns.dgn	PLOT DATE: 6/2/2021
PROJECT LEADER: E.P. DETRICK	DRAWN BY:
DESIGNED BY:	CHECKED BY:
BRIDGE 34 REFERENCE PLANS (3 OF 6)	SHEET 78 OF 99



SECTION A-A

SECTION THRU REINFORCED DIAGONALS





GENERAL PLAN.

BILL OF MATERIAL (METAL)

Make				
4	1"ø	10'-6"	4"	Area at root of thrd. ".55"
		11'-2"		

2 Nuts and 2 Plts. 6"x6"x¾" per Rod.

No.	Size	Length (under head)	
32	¾" ø bolt	1'-11"	Nuts, bolts and washers
16	¾" ø bolt	1'-3"	" " " "

General Notes:-
All timber except oak keys to be long-leared Southern Pine, merchantable inspection.
All rods and bolts to be wrought iron.
Paint all metal one coat of Standard Red Lead, to be mixed in the following proportions: Red Lead-28 lbs. Raw Linseed Oil, one gal., Turpentine ½ pint.
Old work shown by light lines.
New " " " heavy " .

Date 7/17 Period
Feb. 3 Day 2-1

BOSTON AND MAINE RAILROAD
C. & P. Div. St. J. & L. C. R. R.
Valuation Section No. 50
BRIDGE #34 "STANNARD BROOK"
0.4 Mi. East of Greensboro, Vt.
DETAILS OF STRENGTHENING
Scale ½" = 1'0"
From Office of Engineer of Structures, Boston, Mass.

ISSUE		
A	3-6-16	

Drawn by: Hall
Traced by: HGH
Checked by: W.A.S.
Correct: E.P.D.

Approved: Engineer of Structures
Approved: Chief Engineer
Approved:

Earlier Issues Obsolete — Sheet # 1 of 1 Sheets

BRIDGE NO. 34
NOT TO SCALE

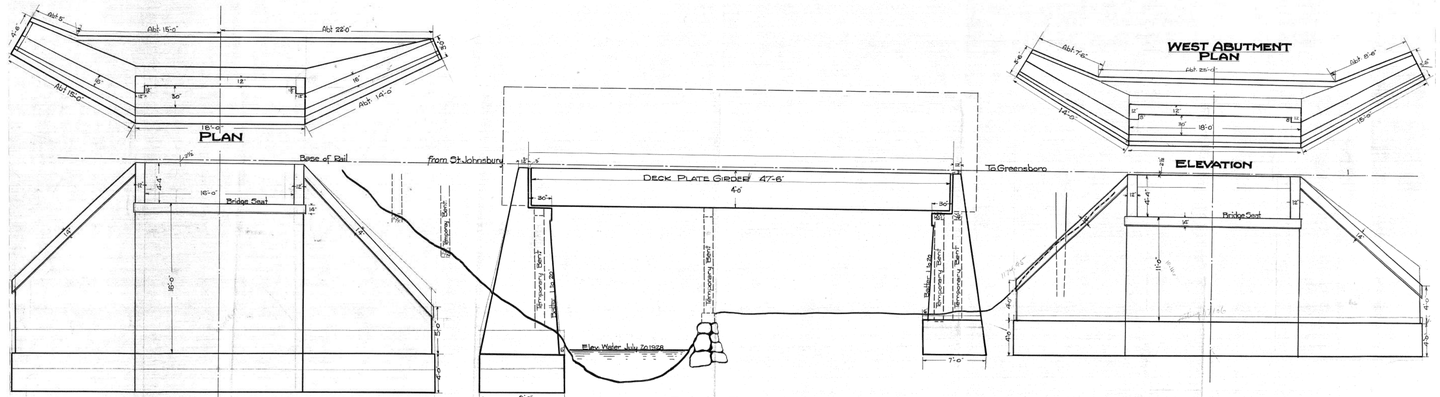
FOR REFERENCE ONLY

vhb

PROJECT NAME: SWANTON - ST. JOHNSBURY
PROJECT NUMBER: STP LVRT(10)

FILE NAME: z20f232refplns.dgn
PROJECT LEADER: E.P. DETRICK
DESIGNED BY:
BRIDGE 34 REFERENCE PLANS (4 OF 6)

PLOT DATE: 6/2/2021
DRAWN BY:
CHECKED BY:
SHEET 79 OF 99



BRIDGE # 34
MP 27.49

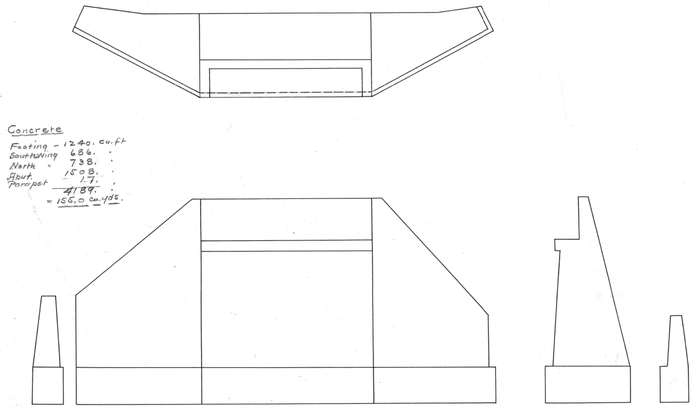
BRIDGE NO. 34
NOT TO SCALE

FOR REFERENCE ONLY

vhb

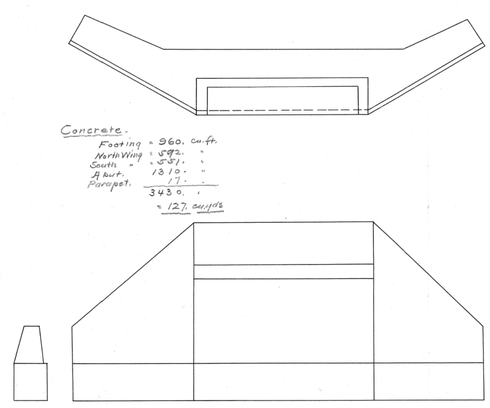
PROJECT NAME:	SWANTON - ST. JOHNSBURY
PROJECT NUMBER:	STP LVRT(10)
FILE NAME: z20f232refplns.dgn	PLOT DATE: 6/2/2021
PROJECT LEADER: E.P. DETRICK	DRAWN BY:
DESIGNED BY:	CHECKED BY:
BRIDGE 34 REFERENCE PLANS (5 OF 6)	SHEET 80 OF 99

ST. J. & L. C. R. R.
BRIDGE 34
GREENSBORO, VT.
Scale 1"=4'-0"



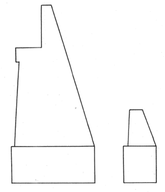
Concrete
Footing - 1240. cu.ft.
South Wing 686. "
North " 738. "
Abut. 1508. "
Parapet 171. "
4183. "
= 155.0 cu.yds.

EAST ABUTMENT



Concrete.
Footing = 960. cu.ft.
North Wing = 582. "
South " = 571. "
Abut. = 1810. "
Parapet. = 171. "
3430. "
= 127. cu.yds

WEST ABUTMENT



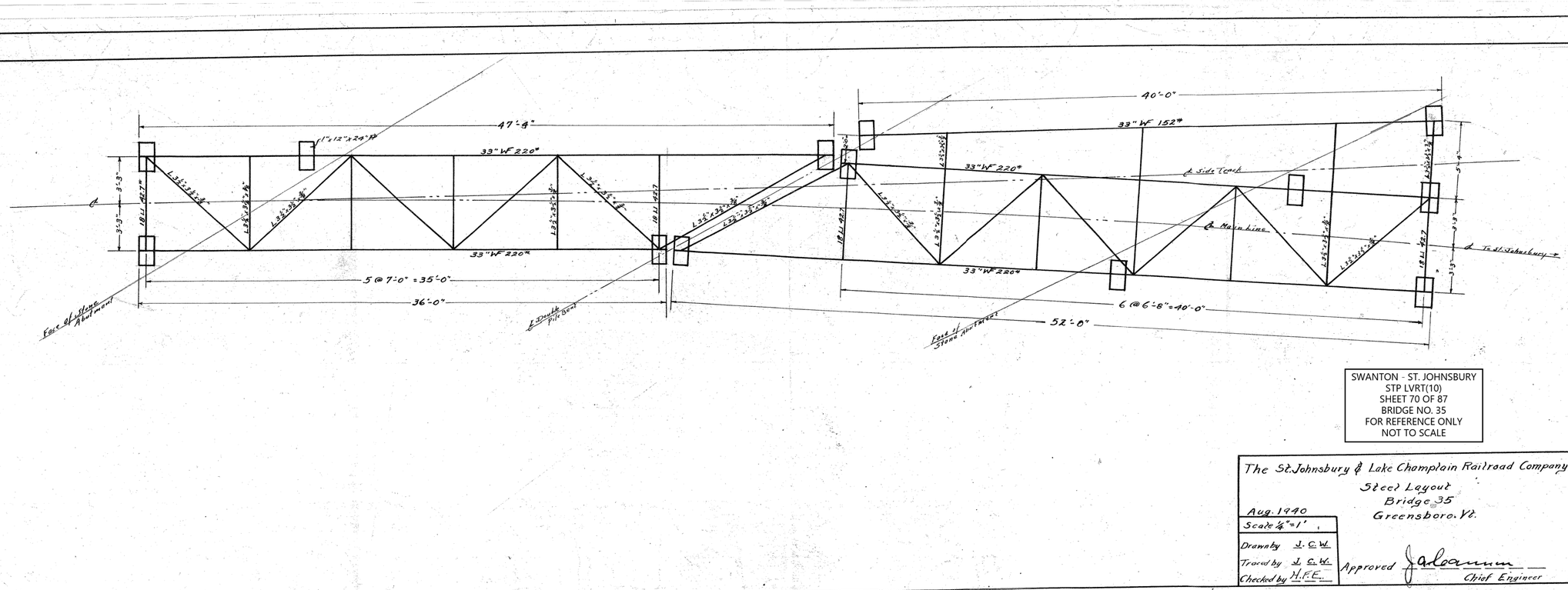
Issue 12-18-20

50-19

BRIDGE NO. 34
NOT TO SCALE

FOR REFERENCE ONLY

PROJECT NAME: SWANTON - ST. JOHNSBURY	
PROJECT NUMBER: STP LVRT(10)	
FILE NAME: z20f232refplns.dgn	PLOT DATE: 6/2/2021
PROJECT LEADER: E.P. DETRICK	DRAWN BY:
DESIGNED BY:	CHECKED BY:
BRIDGE 34 REFERENCE PLANS (6 OF 6)	SHEET 81 OF 99



SWANTON - ST. JOHNSBURY
STP LVRT(10)
SHEET 70 OF 87
BRIDGE NO. 35
FOR REFERENCE ONLY
NOT TO SCALE

The St. Johnsbury & Lake Champlain Railroad Company
Steel Layout
Bridge 35
Greensboro, Vt.

Aug. 1940
Scale ¼"=1'
Drawn by J. C. W.
Traced by J. C. W.
Checked by H.F.E.

Approved _____ Chief Engineer

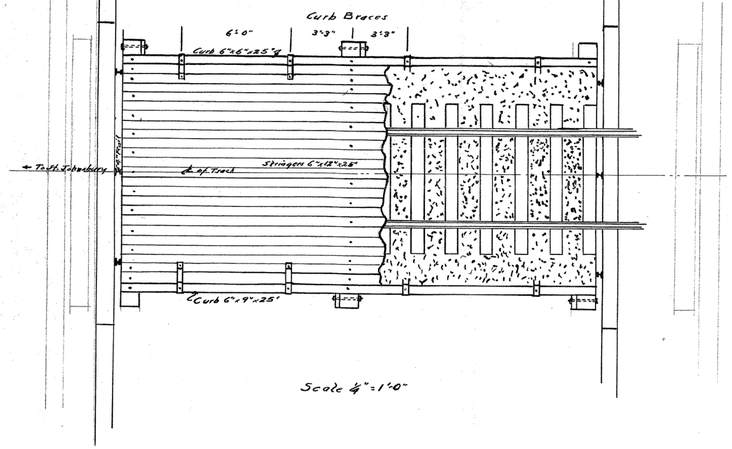
50-46

BRIDGE NO. 35
NOT TO SCALE

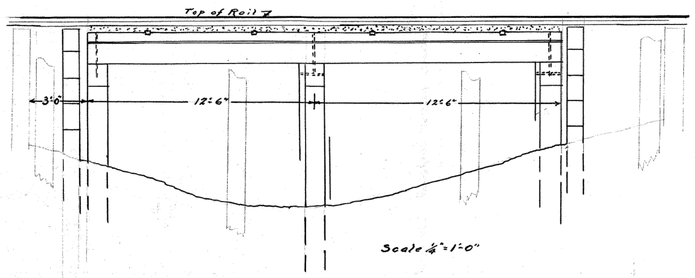
FOR REFERENCE ONLY

vhb

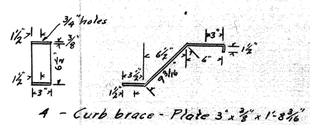
PROJECT NAME:	SWANTON - ST. JOHNSBURY
PROJECT NUMBER:	STP LVRT(10)
FILE NAME: z20f232refplns.dgn	PLOT DATE: 6/2/2021
PROJECT LEADER: E.P. DETRICK	DRAWN BY:
DESIGNED BY:	CHECKED BY:
BRIDGE 35 REFERENCE PLANS (1 OF 9)	SHEET 82 OF 99



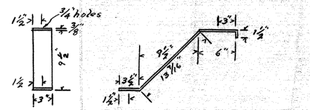
Scale ¼"=1'-0"



Scale ¼"=1'-0"

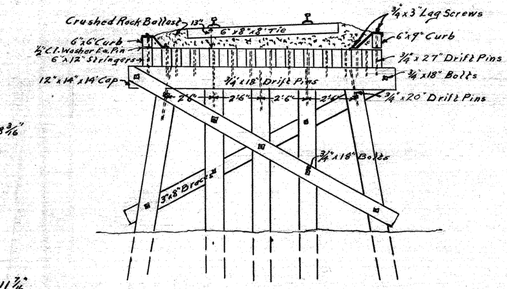


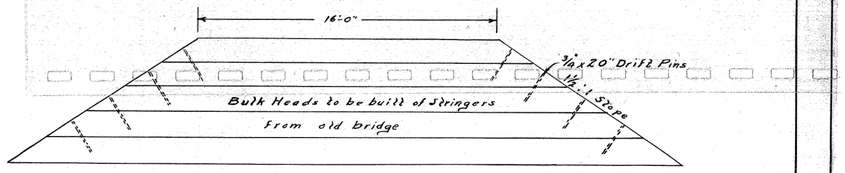
4 - Curb brace - Plate 3"x⅜"x1'-8⅜"



4 - Curb brace - Plate 3"x⅜"x1'-11⅞"

Scale 1"=1'-0"





Scale ⅛"=1'-0"

SWANTON - ST. JOHNSBURY
STP LVRT(10)
SHEET 71 OF 87
BRIDGE NO. 35
FOR REFERENCE ONLY
NOT TO SCALE

The St. Johnsbury & Lake Champlain Railroad Company
May 1941
Bridge A35
Ballast Deck

Scales as Shown
Drawn by J.C.W.
Traced by J.C.W.
Checked by W.F.E.

Approved W. H. Earle
Engr. Maint. & Const.

1-9-4 50-59

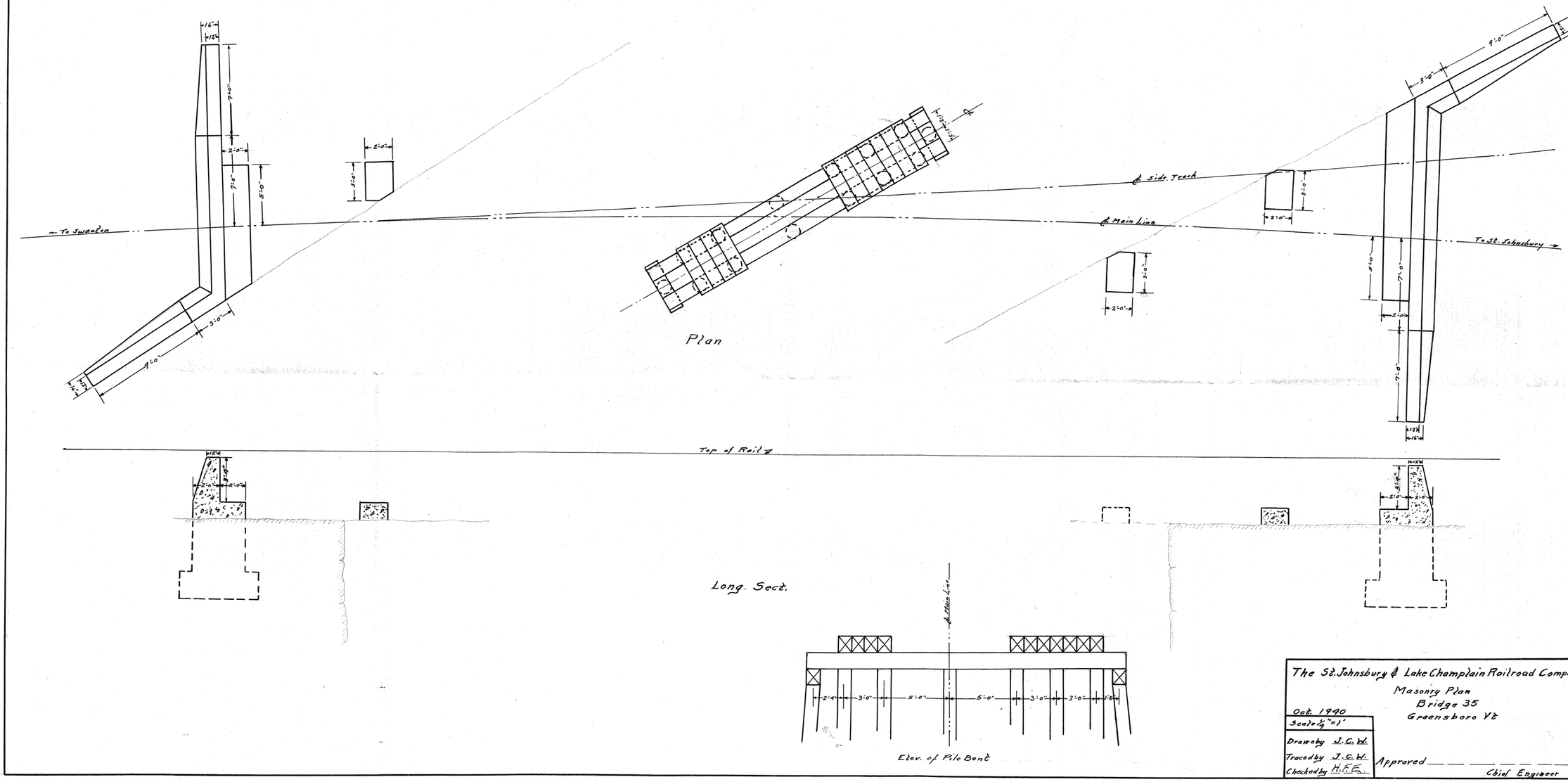
BRIDGE NO. 35
NOT TO SCALE

FOR REFERENCE ONLY

vhb

PROJECT NAME:	SWANTON - ST. JOHNSBURY
PROJECT NUMBER:	STP LVRT(10)

FILE NAME: z20f232refplns.dgn	PLOT DATE: 6/2/2021
PROJECT LEADER: E.P. DETRICK	DRAWN BY:
DESIGNED BY:	CHECKED BY:
BRIDGE 35 REFERENCE PLANS (2 OF 9)	SHEET 83 OF 99



The St. Johnsbury & Lake Champlain Railroad Company

Masonry Plan
Bridge 35
Greensboro Vt

Oct. 1940
Scale ¼"=1'
Drawn by J.C.W.
Traced by J.C.W.
Checked by H.K.E.

Approved _____ Chief Engineer

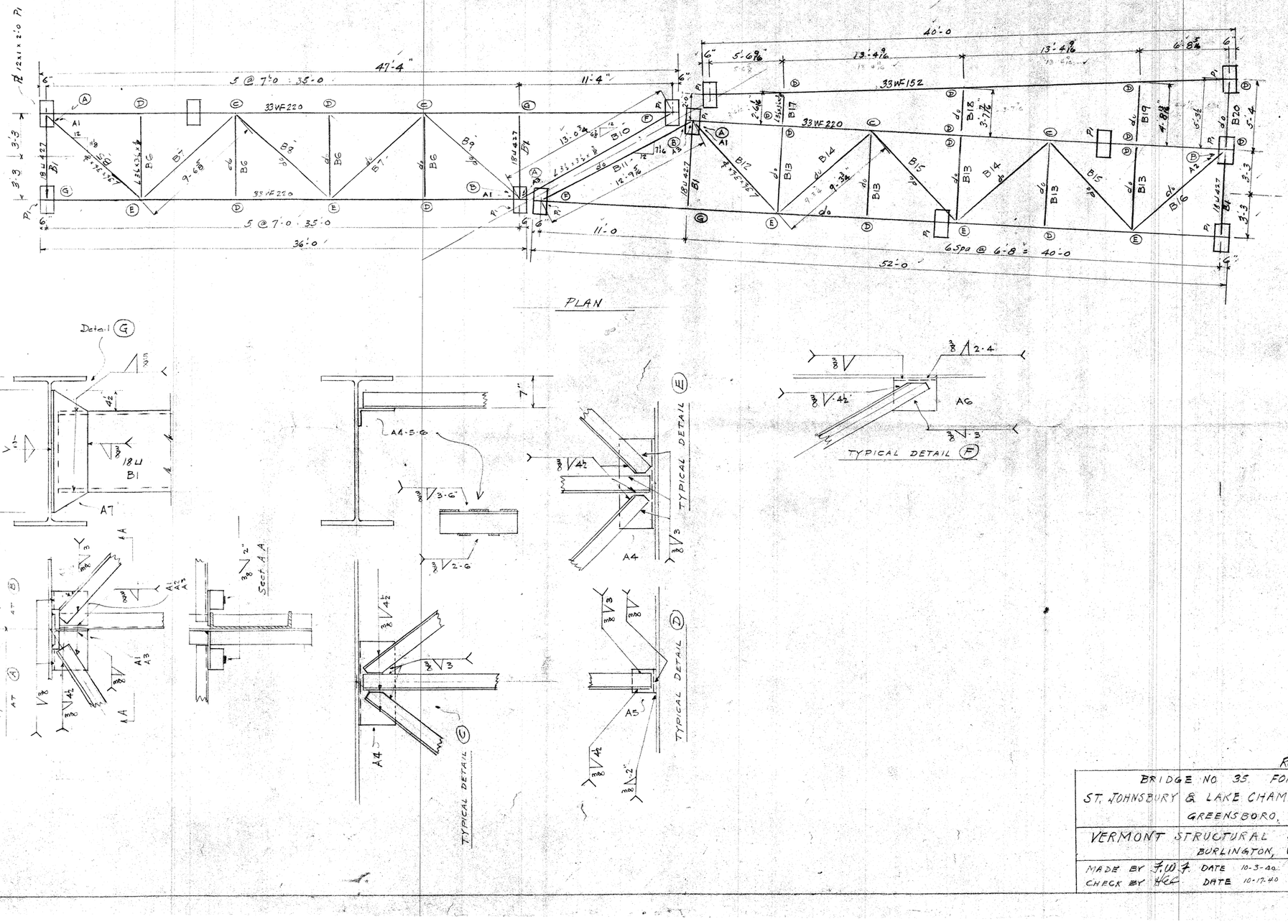
50-45

BRIDGE NO. 35
NOT TO SCALE

FOR REFERENCE ONLY

vhb

PROJECT NAME:	SWANTON - ST. JOHNSBURY
PROJECT NUMBER:	STP LVRT(10)
FILE NAME: z20f232refplns.dgn	PLOT DATE: 6/2/2021
PROJECT LEADER: E.P. DETRICK	DRAWN BY:
DESIGNED BY:	CHECKED BY:
BRIDGE 35 REFERENCE PLANS (3 OF 9)	SHEET 84 OF 99



Rev. 12-2-40

BRIDGE NO. 35 FOR
ST. JOHNSBURY & LAKE CHAMPLAIN R.R.
GREENSBORO, VT.

VERMONT STRUCTURAL STEEL CORP
BURLINGTON, VT.

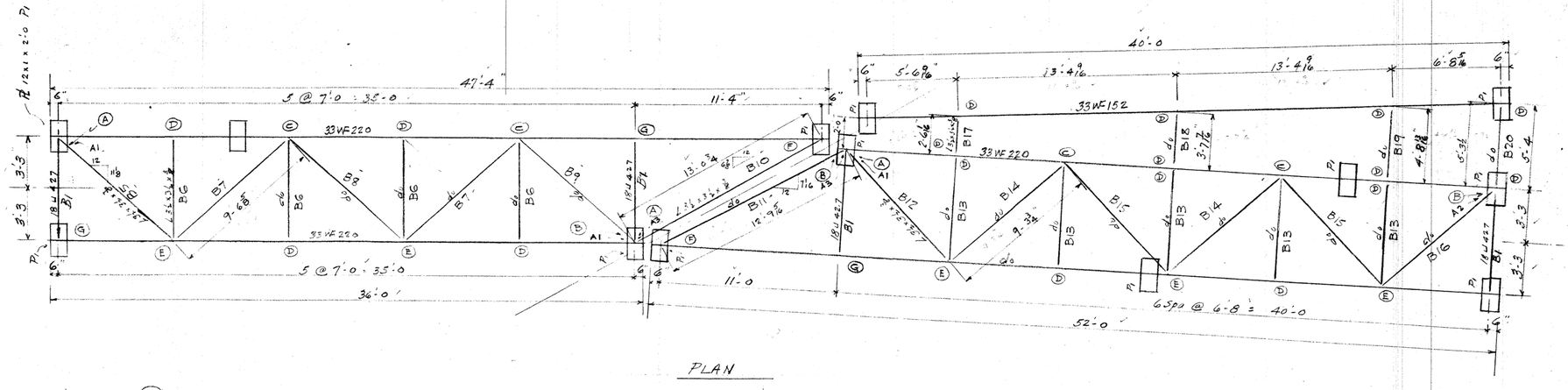
MADE BY F.W.F. DATE 10-3-40 SHEET NO. E1
CHECK BY HCL DATE 10-17-40 CONT NO. 292

BRIDGE NO. 35
NOT TO SCALE

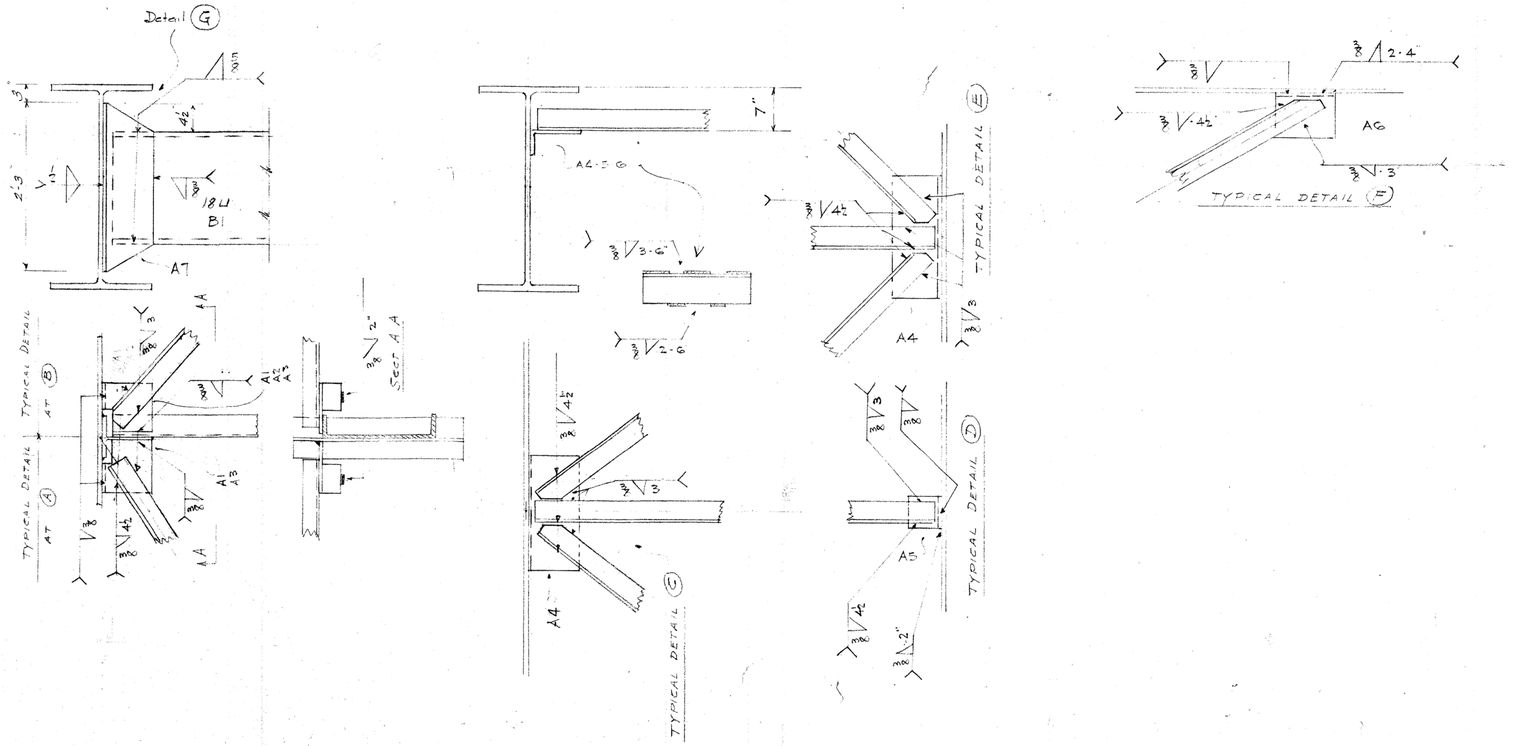
FOR REFERENCE ONLY

vhb

PROJECT NAME:	SWANTON - ST. JOHNSBURY
PROJECT NUMBER:	STP LVRT(10)
FILE NAME: z20f232refplns.dgn	PLOT DATE: 6/2/2021
PROJECT LEADER: E.P. DETRICK	DRAWN BY:
DESIGNED BY:	CHECKED BY:
BRIDGE 35 REFERENCE PLANS (4 OF 9)	SHEET 85 OF 99



PLAN



Rev. 12-2-40

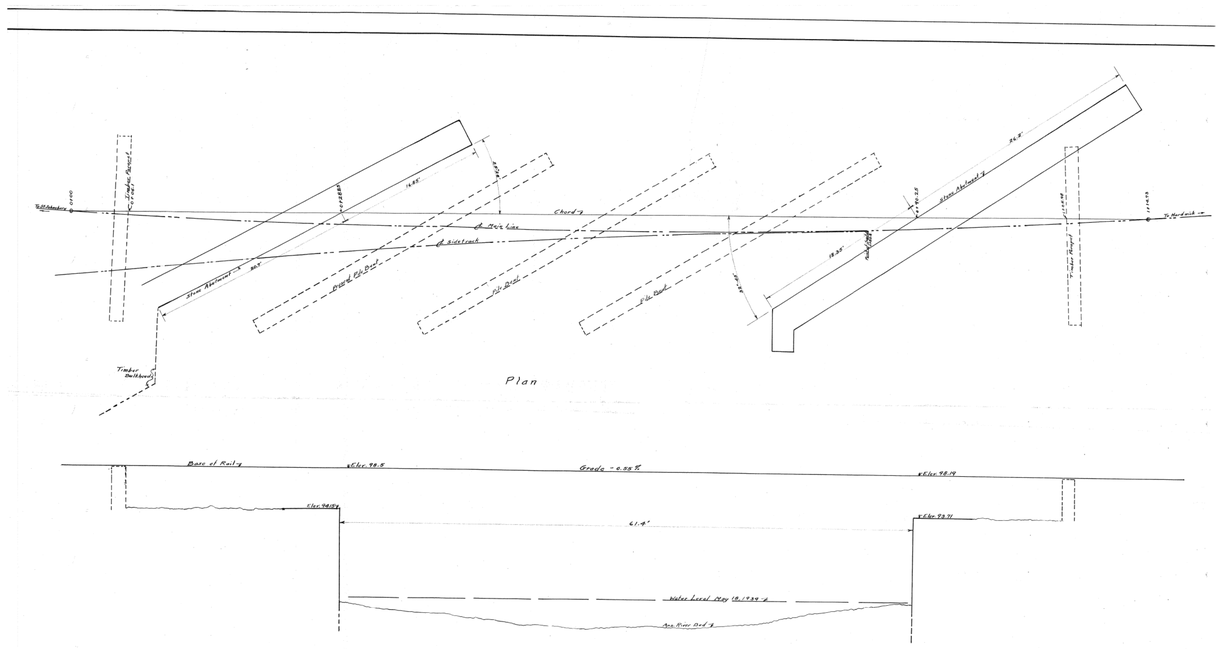
BRIDGE NO. 35 FOR ST. JOHNSBURY & LAKE CHAMPLAIN R.R. GREENSBORO, VT.	
VERMONT STRUCTURAL STEEL CORP BURLINGTON, VT.	
MADE BY F.W.T. DATE 10-3-40	SHEET NO. E1
CHECK BY HCH DATE 10-17-40	CONT NO. 292

BRIDGE NO. 35
NOT TO SCALE

FOR REFERENCE ONLY

vhb

PROJECT NAME:	SWANTON - ST. JOHNSBURY
PROJECT NUMBER:	STP LVRT(10)
FILE NAME: z20f232refplns.dgn	PLOT DATE: 6/2/2021
PROJECT LEADER: E.P. DETRICK	DRAWN BY:
DESIGNED BY:	CHECKED BY:
BRIDGE 35 REFERENCE PLANS (5 OF 9)	SHEET 86 OF 99

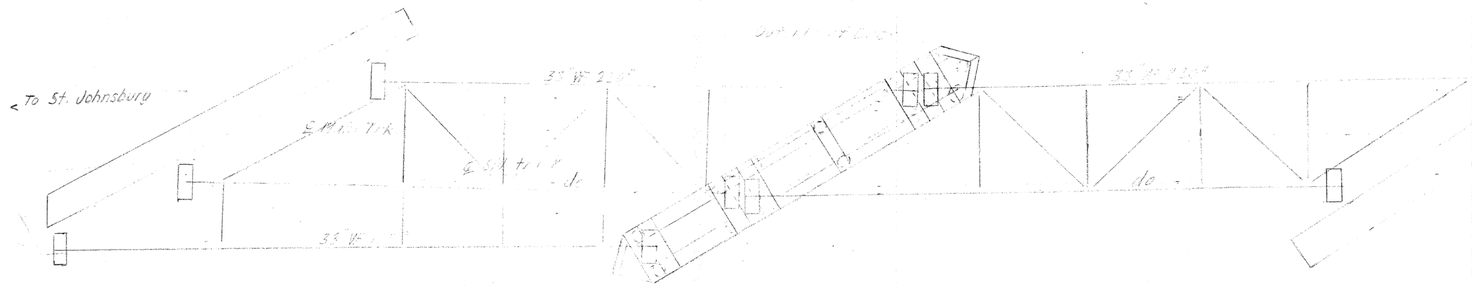


The St. Johnsbury & Lake Champlain Railroad Comp.
Bridge 35
Greensboro Vermont
Scale 1" = 4' May 1939

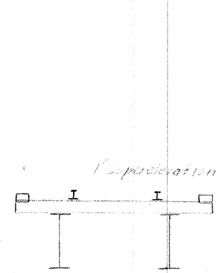
BRIDGE NO. 35
NOT TO SCALE

FOR REFERENCE ONLY

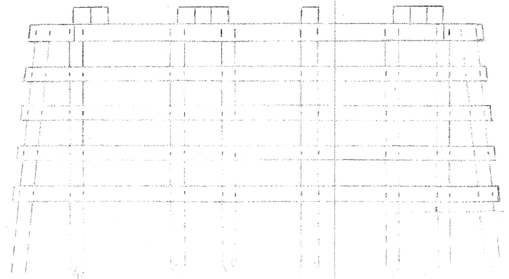
PROJECT NAME:	SWANTON - ST. JOHNSBURY
PROJECT NUMBER:	STP LVRT(10)
FILE NAME: z20f232refplns.dgn	PLOT DATE: 6/2/2021
PROJECT LEADER: E.P. DETRICK	DRAWN BY:
DESIGNED BY:	CHECKED BY:
BRIDGE 35 REFERENCE PLANS (6 OF 9)	SHEET 87 OF 99



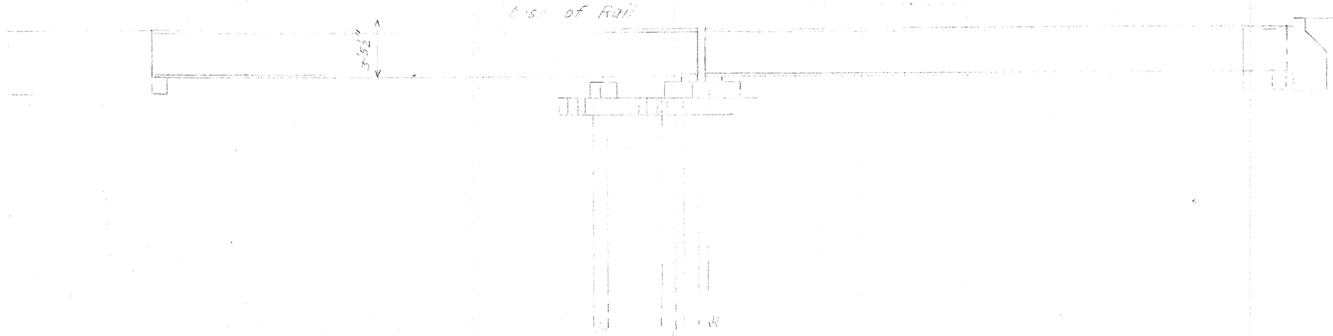
PLAN



SECTION



ELEVATION OF BENT



SECTION THRU SPAN

EAD LOADING
OPEN DECK

35

ST. JOHNSBURY & LAKE CHAMPLAIN RR
STRINGER REBUILDING
BRIDGE NO. 35 — STEEL
ST JOHNSBURY VT.
From Office of Chief Engineer Boston & Maine R.R. — Boston Mass.
Scale ¼" = 1'-0"

Approved:-

Engineer of Structures

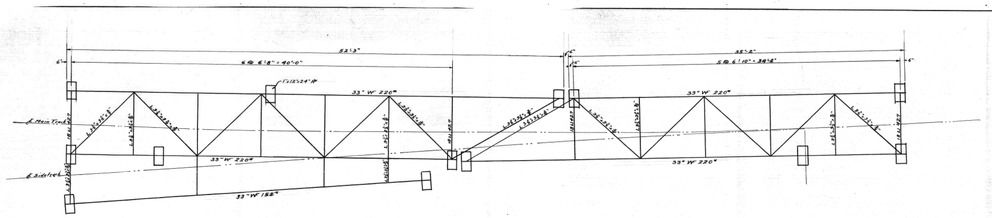
Issue A 7-15-32

BRIDGE NO. 35
NOT TO SCALE

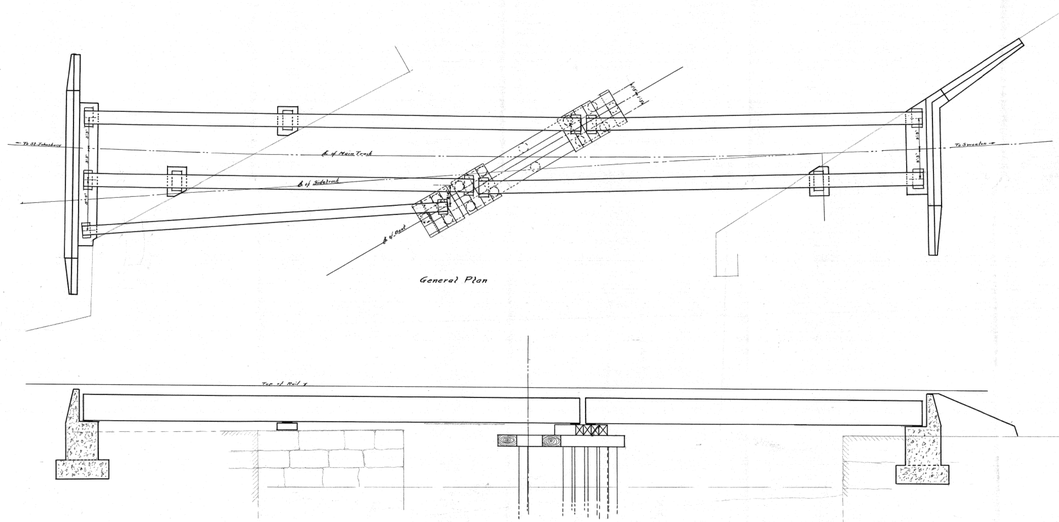
FOR REFERENCE ONLY

vhb

PROJECT NAME:	SWANTON - ST. JOHNSBURY
PROJECT NUMBER:	STP LVRT(10)
FILE NAME: z20f232refplns.dgn	PLOT DATE: 6/2/2021
PROJECT LEADER: E.P. DETRICK	DRAWN BY:
DESIGNED BY:	CHECKED BY:
BRIDGE 35 REFERENCE PLANS (7 OF 9)	SHEET 88 OF 99

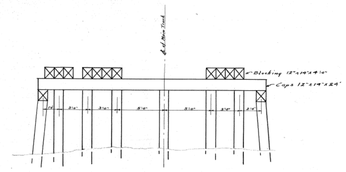


Steel Layout



General Plan

Long. Sect.



Elevation of Pile Bent

Note- Old work shown in light lines.
New work shown in heavy lines.

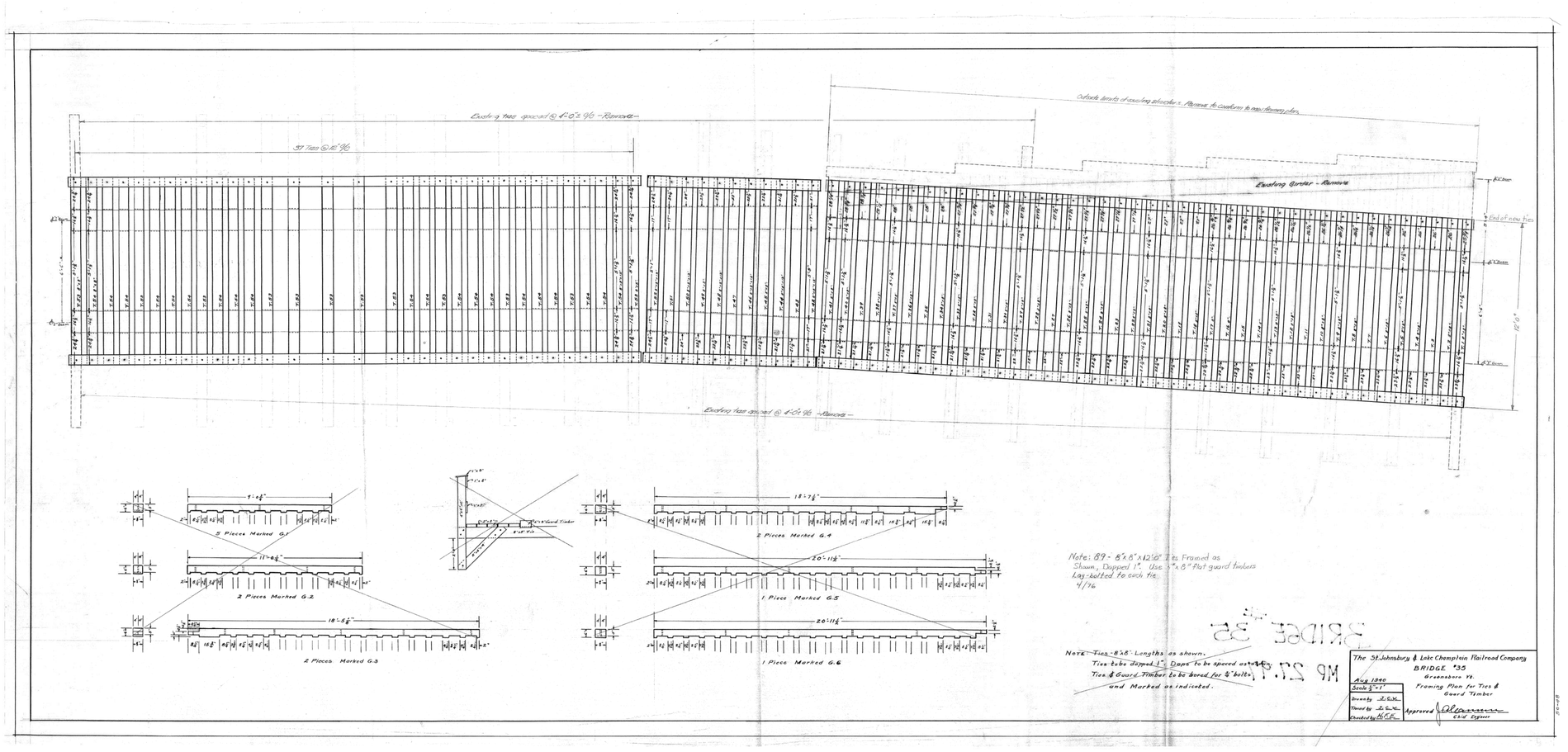
The St. Johnsbury & Lake Champlain Railroad Company
BRIDGE #35
Greensboro Vt.
May 1940
Scale 3/8"=1'
Drawn by J.C.W.
Traced by J.C.W.
Checked by E.C.C.
Approved [illegible]
Chief Engineer

BRIDGE NO. 35
NOT TO SCALE

FOR REFERENCE ONLY

vhb

PROJECT NAME:	SWANTON - ST. JOHNSBURY
PROJECT NUMBER:	STP LVRT(10)
FILE NAME: z20f232refplns.dgn	PLOT DATE: 6/2/2021
PROJECT LEADER: E.P. DETRICK	DRAWN BY:
DESIGNED BY:	CHECKED BY:
BRIDGE 35 REFERENCE PLANS (8 OF 9)	SHEET 89 OF 99

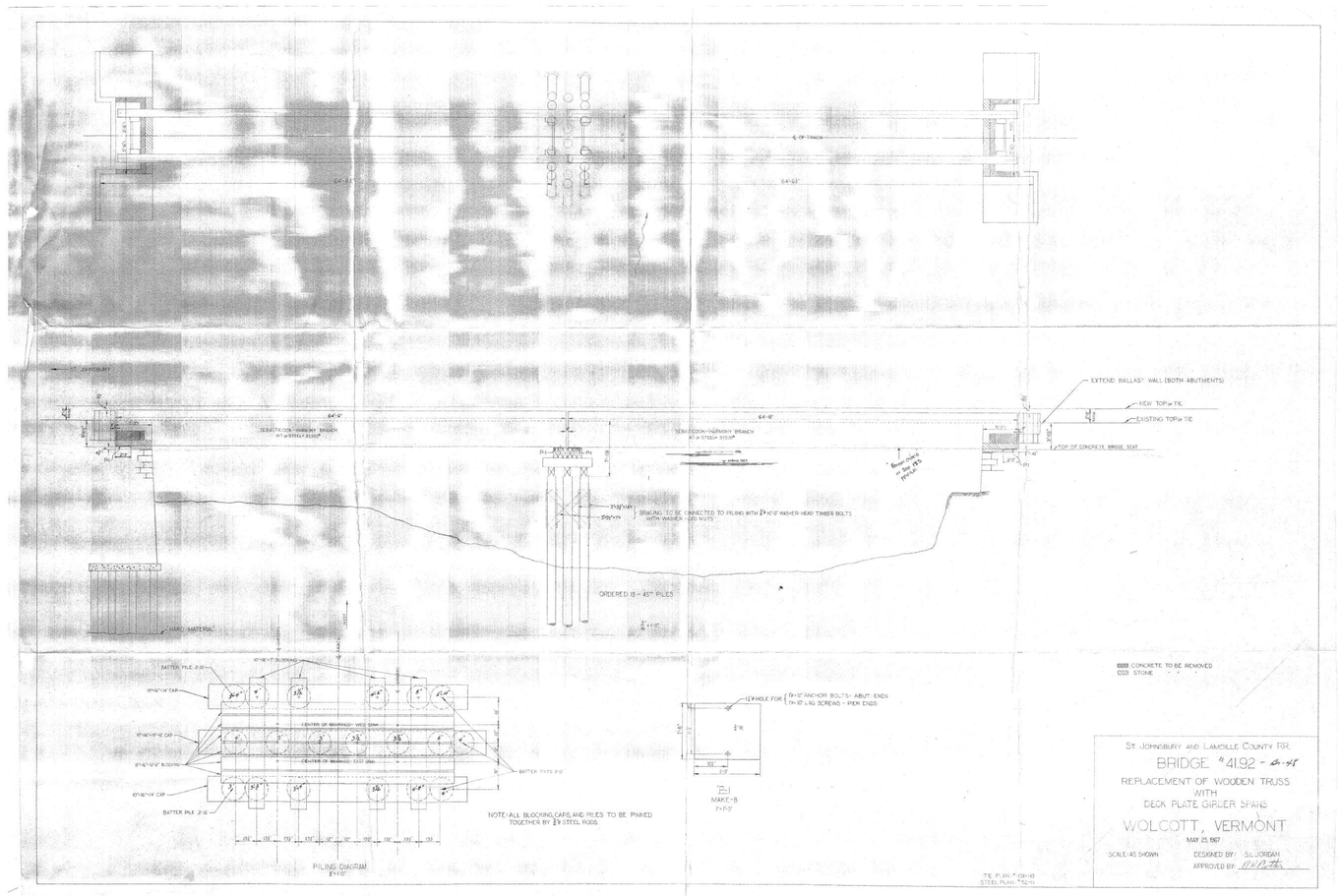


BRIDGE NO. 35
NOT TO SCALE

FOR REFERENCE ONLY

vhb

PROJECT NAME:	SWANTON - ST. JOHNSBURY
PROJECT NUMBER:	STP LVRT(10)
FILE NAME: z20f232refplns.dgn	PLOT DATE: 6/2/2021
PROJECT LEADER: E.P. DETRICK	DRAWN BY:
DESIGNED BY:	CHECKED BY:
BRIDGE 35 REFERENCE PLANS (9 OF 9)	SHEET 90 OF 99



BRIDGE NO. 48
NOT TO SCALE

FOR REFERENCE ONLY

vhb

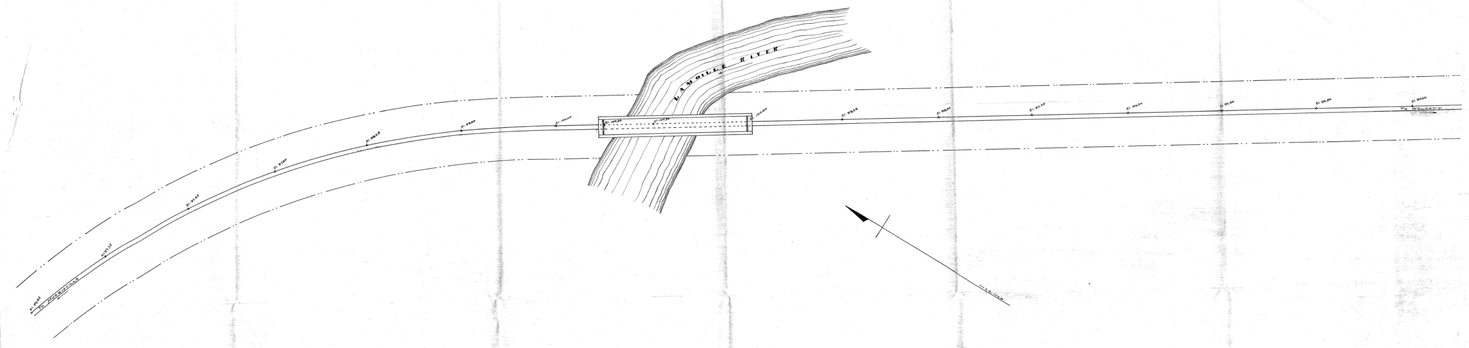
PROJECT NAME:	SWANTON - ST. JOHNSBURY
PROJECT NUMBER:	STP LVRT(10)
FILE NAME: z20f232refplns.dgn	PLOT DATE: 6/2/2021
PROJECT LEADER: E.P. DETRICK	DRAWN BY:
DESIGNED BY:	CHECKED BY:
BRIDGE 48 REFERENCE PLANS (1 OF 4)	SHEET 91 OF 99

ST. J. & L.C.R.R.

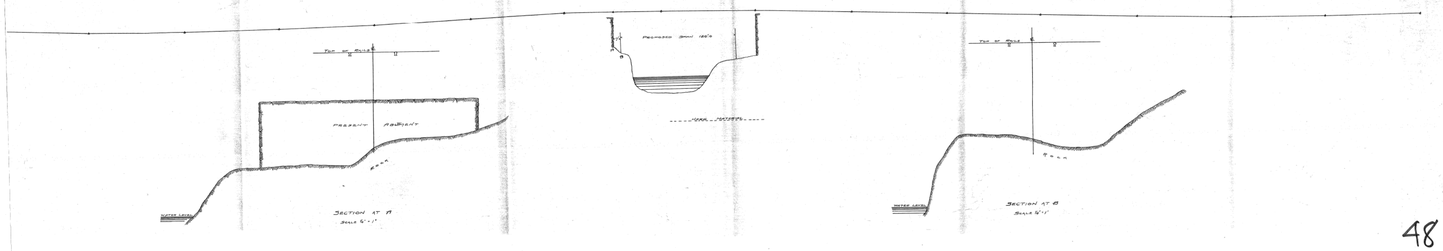
PLAN SHOWING BRIDGE #48

WEST OF WOLCOTT

SCALE 1" = 40' MAR. 1946



PROFILE



48
only abut. remain

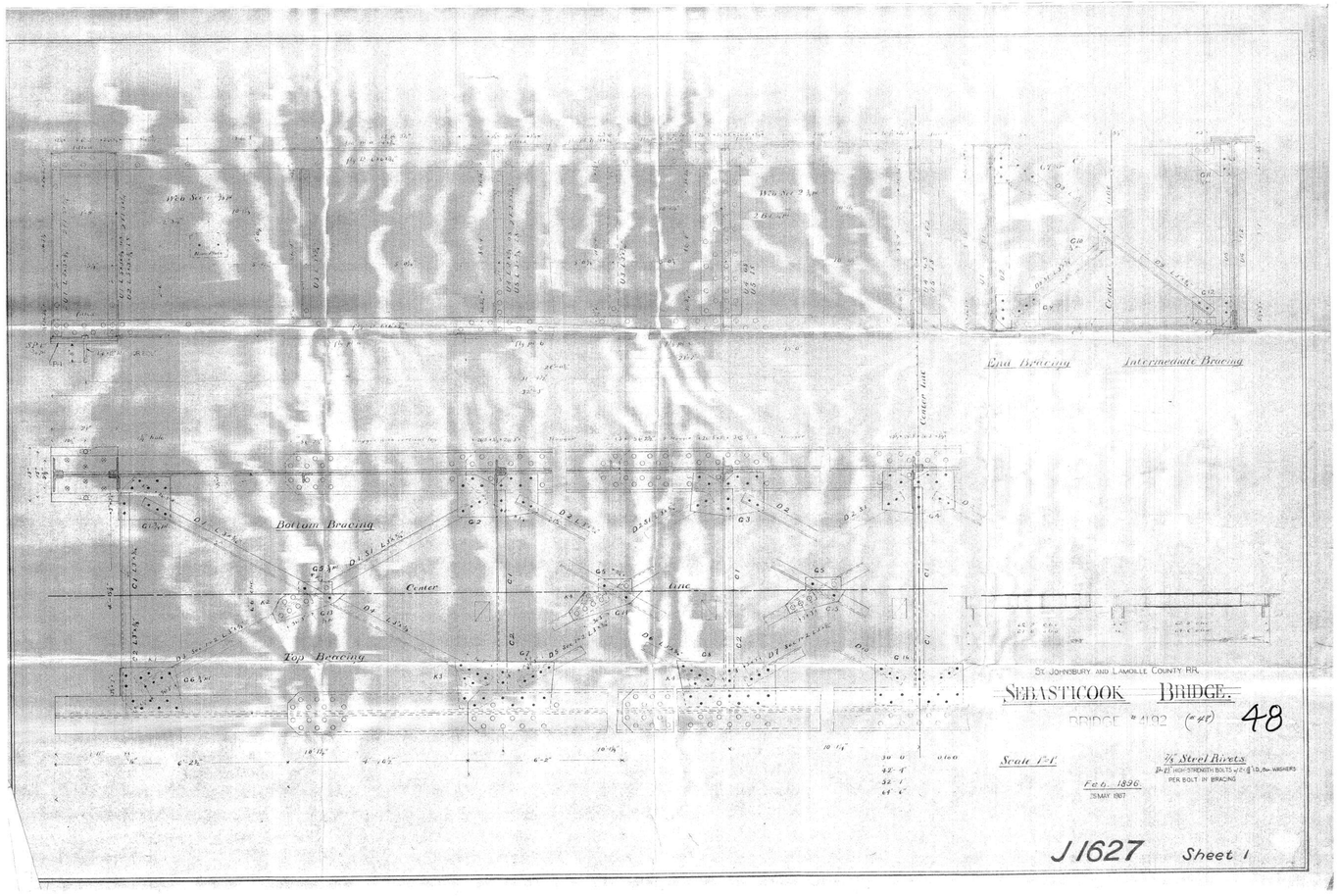
BRIDGE NO. 48

NOT TO SCALE

FOR REFERENCE ONLY

vhb

PROJECT NAME:	SWANTON - ST. JOHNSBURY
PROJECT NUMBER:	STP LVRT(10)
FILE NAME: z20f232refplns.dgn	PLOT DATE: 6/2/2021
PROJECT LEADER: E.P. DETRICK	DRAWN BY:
DESIGNED BY:	CHECKED BY:
BRIDGE 48 REFERENCE PLANS (1 OF 4)	SHEET 92 OF 99



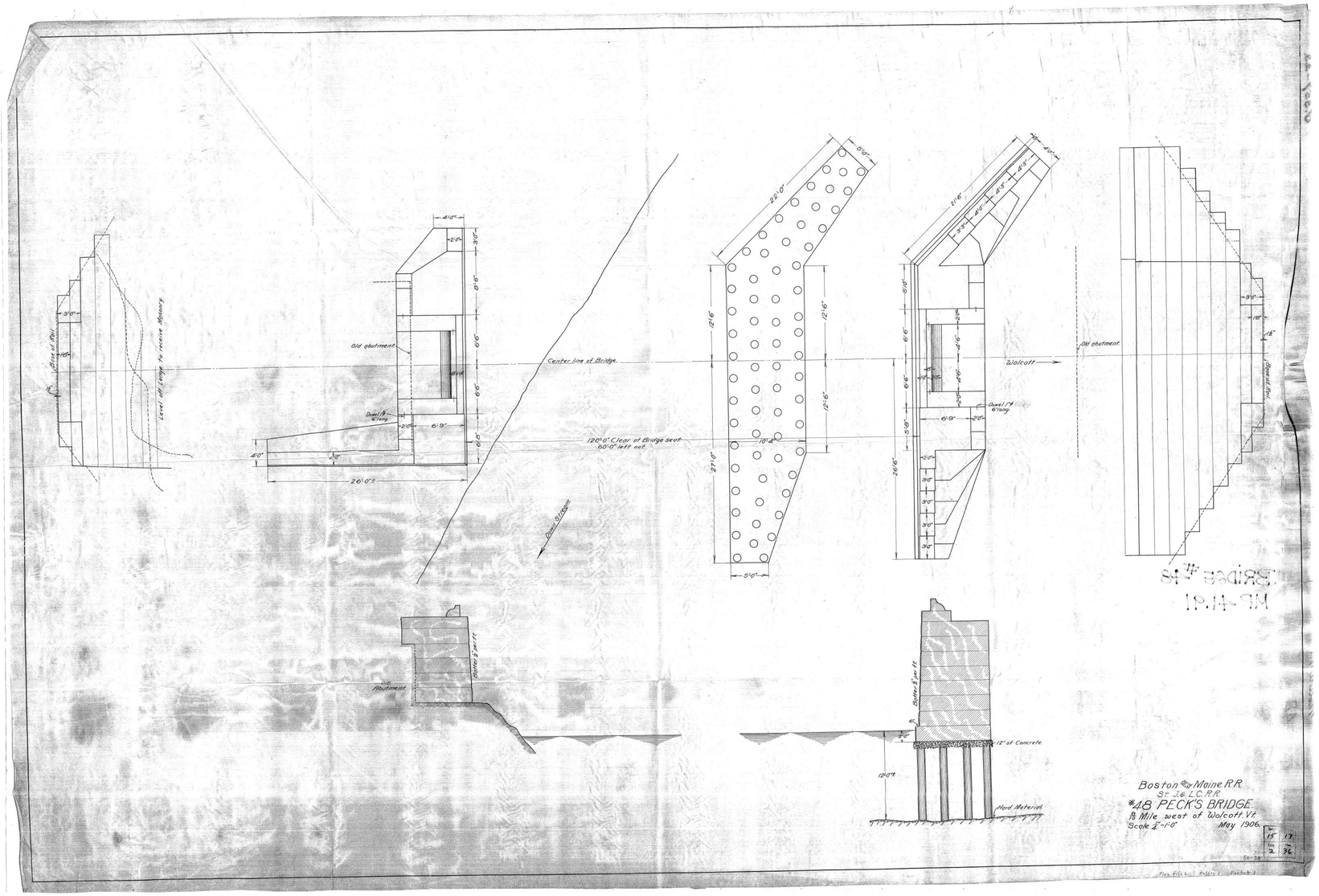
BRIDGE NO. 48
NOT TO SCALE

FOR REFERENCE ONLY

vhb

PROJECT NAME:	SWANTON - ST. JOHNSBURY
PROJECT NUMBER:	STP LVRT(10)

FILE NAME: z20f232refplns.dgn	PLOT DATE: 6/2/2021
PROJECT LEADER: E.P. DETRICK	DRAWN BY:
DESIGNED BY:	CHECKED BY:
BRIDGE 48 REFERENCE PLANS (1 OF 4)	SHEET 93 OF 99

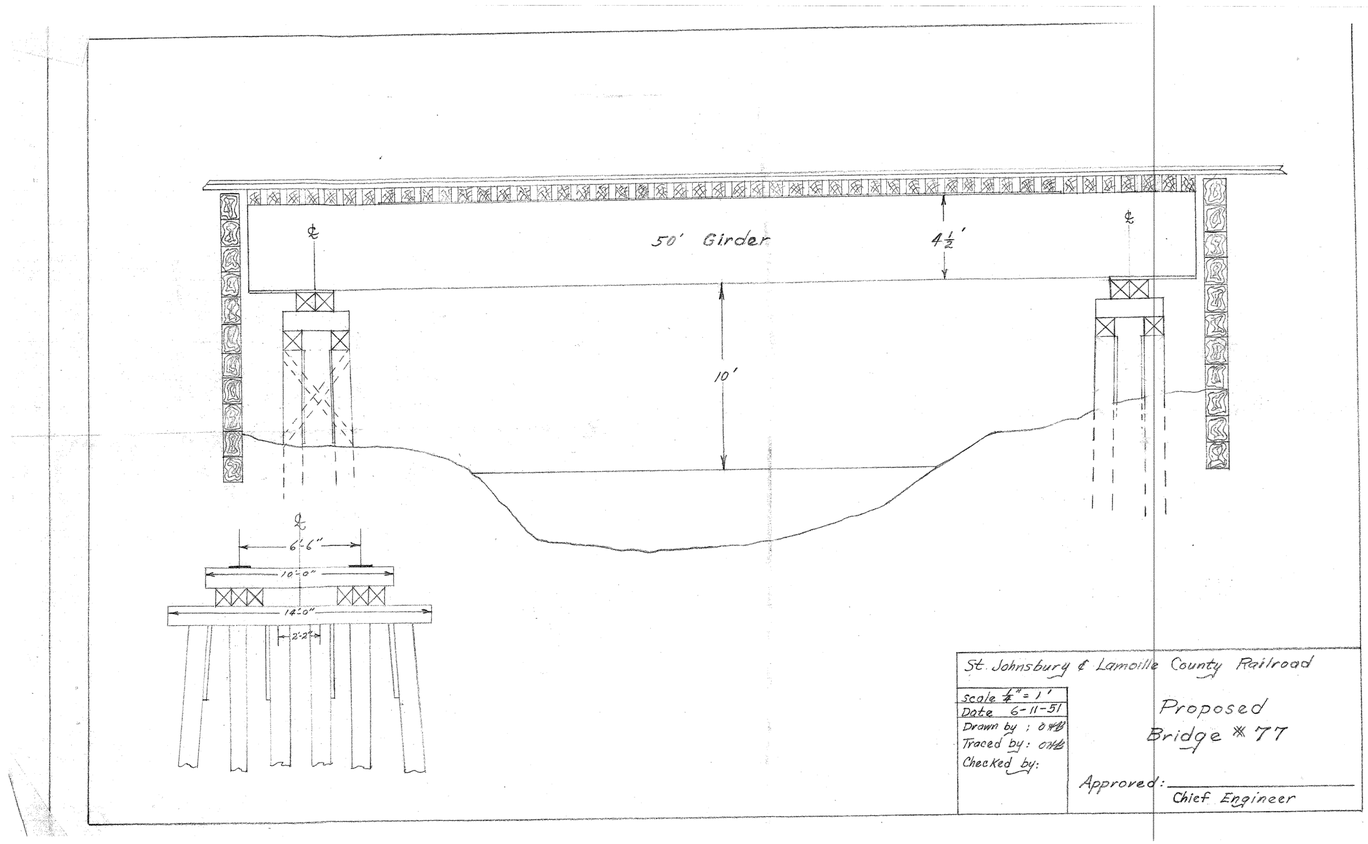


BRIDGE NO. 48
NOT TO SCALE

FOR REFERENCE ONLY

vhb

PROJECT NAME:	SWANTON - ST. JOHNSBURY
PROJECT NUMBER:	STP LVRT(10)
FILE NAME: z20f232refplns.dgn	PLOT DATE: 6/2/2021
PROJECT LEADER: E.P. DETRICK	DRAWN BY:
DESIGNED BY:	CHECKED BY:
BRIDGE 48 REFERENCE PLANS (1 OF 4)	SHEET 94 OF 99



St. Johnsbury & Lamoille County Railroad

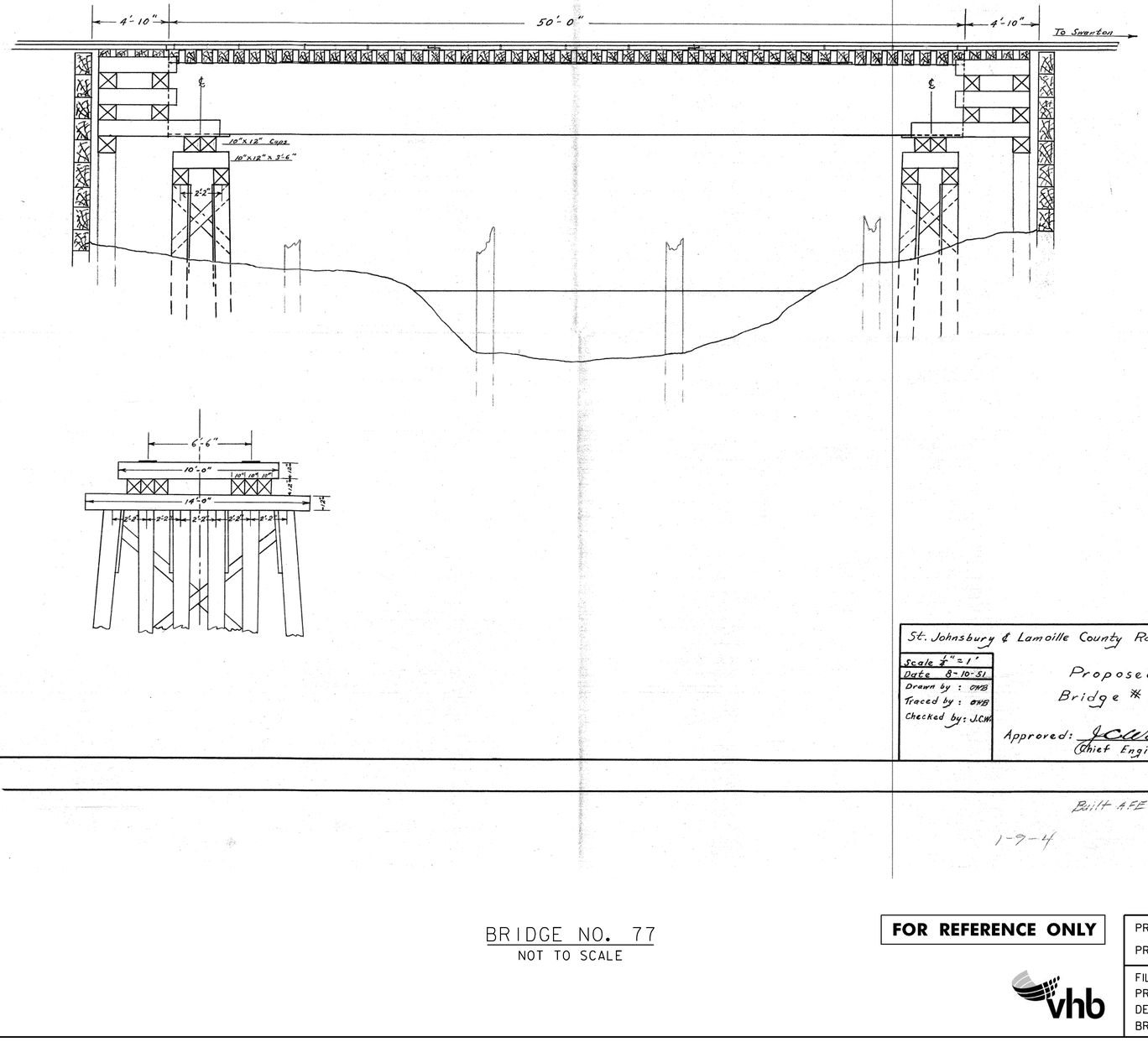
Scale ¼" = 1'	Proposed Bridge # 77
Date 6-11-51	
Drawn by : OHB	
Traced by: OHB	
Checked by:	Approved: _____ Chief Engineer

BRIDGE NO. 77
NOT TO SCALE

FOR REFERENCE ONLY

vhb

PROJECT NAME:	SWANTON - ST. JOHNSBURY
PROJECT NUMBER:	STP LVRT(10)
FILE NAME: z20f232refplns.dgn	PLOT DATE: 6/2/2021
PROJECT LEADER: E.P. DETRICK	DRAWN BY:
DESIGNED BY:	CHECKED BY:
BRIDGE 77 REFERENCE PLANS (1 OF 4)	SHEET 95 OF 99



St. Johnsbury & Lamoille County Railroad

Scale 1/4" = 1'
Date 8-10-51
Drawn by : OHB
Traced by : OHB
Checked by: J.C.W.

Proposed
Bridge # 77

Approved: J.C. Woods
Chief Engineer

Built AFE 52-102

1-9-4

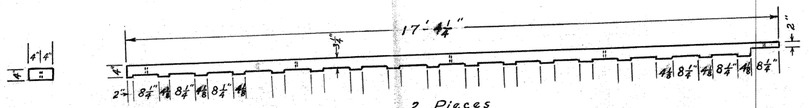
50

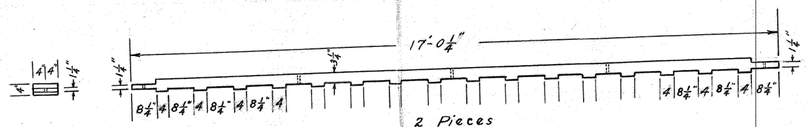
BRIDGE NO. 77
NOT TO SCALE

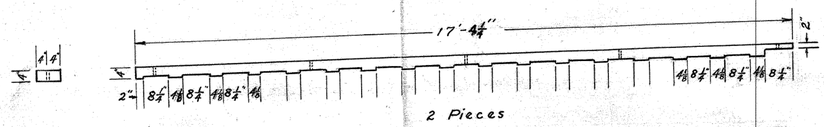
FOR REFERENCE ONLY

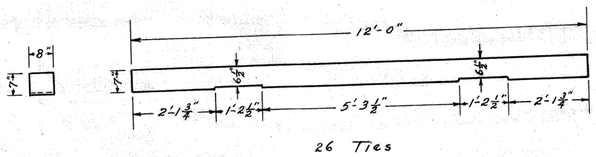
vhb

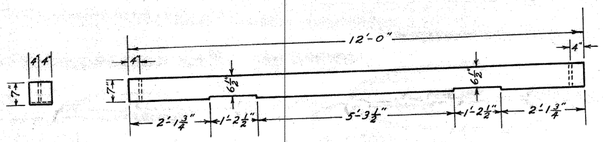
PROJECT NAME:	SWANTON - ST. JOHNSBURY
PROJECT NUMBER:	STP LVRT(10)
FILE NAME: z20f232refplns.dgn	PLOT DATE: 6/2/2021
PROJECT LEADER: E.P. DETRICK	DRAWN BY:
DESIGNED BY:	CHECKED BY:
BRIDGE 77 REFERENCE PLANS (2 OF 4)	SHEET 96 OF 99

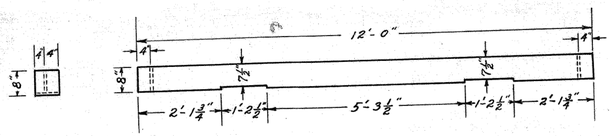


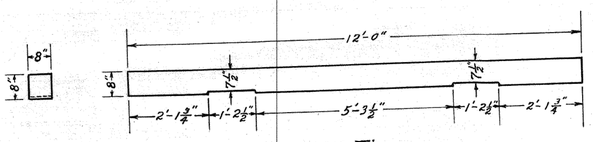












Note:

Guard Timber to be dapped and bored for ¾" bolts as shown.

St. Johnsbury & Lamoille County Railroad

Scale ½" = 1'
Date 8/14/51
Drawn by OMB
Traced by OMB
Checked by J.C.W.

Sketch Showing Framing of Ties and Guard Timber
Bridge 77

Approved: J.C. Woods
Chief Engineer

BRIDGE NO. 77
NOT TO SCALE

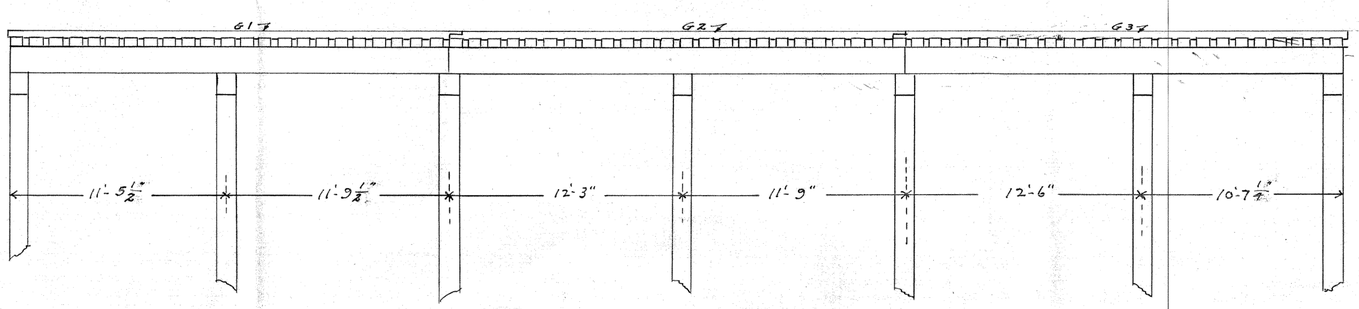
FOR REFERENCE ONLY

vhb

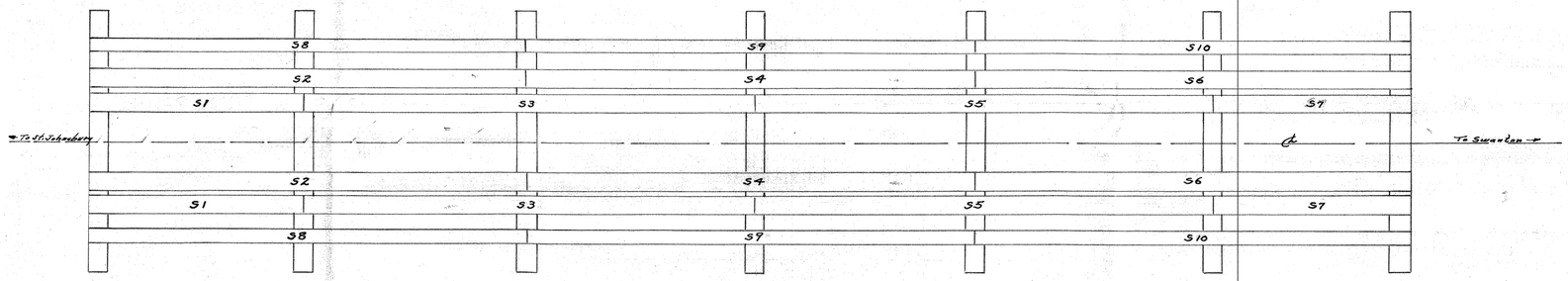
PROJECT NAME: SWANTON - ST. JOHNSBURY
PROJECT NUMBER: STP LVRT(10)

FILE NAME: z20f232refplns.dgn
PROJECT LEADER: E.P. DETRICK
DESIGNED BY:
BRIDGE 77 REFERENCE PLANS (3 OF 4)

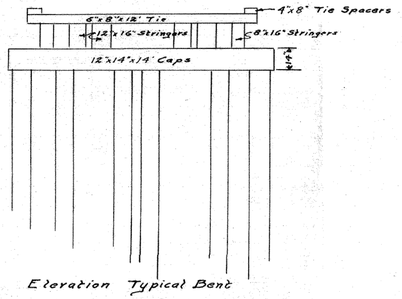
PLOT DATE: 6/2/2021
DRAWN BY:
CHECKED BY:
SHEET 97 OF 99



Elevation



Plan



Elevation Typical Bent

Stringers

S1	2 - 12" x 16" x 11'-5 1/2"
S2	2 - 12" x 16" x 23'-3"
S3	2 - 12" x 16" x 24'-0 1/2"
S4	2 - 12" x 16" x 24'-0"
S5	2 - 12" x 16" x 24'-3"
S6	2 - 12" x 16" x 23'-1 1/4"
S7	2 - 12" x 16" x 10'-7 1/4"
S8	2 - 8" x 16" x 23'-3"
S9	2 - 8" x 16" x 24'-0"
S10	2 - 8" x 16" x 23'-1 1/4"

Tie Spacers

G1 & G3	4 - 4" x 8" x 24'-0 3/8"
G2	2 - 4" x 8" x 23'-10 3/8"

Ties

70 - 6" x 8" x 12'

Caps

7 - 12" x 14" x 14'

Scale 1/4" = 1'	The St. Johnsbury & Lake Champlain Railroad Company
1-2-41	Bridge 77
Drawn by H.E.F.	East Fairfield
Traced by H.E.F.	Sketch for S.H. Caps - Stringers - Ties & Guard Timber
Checked by J.C.W.	

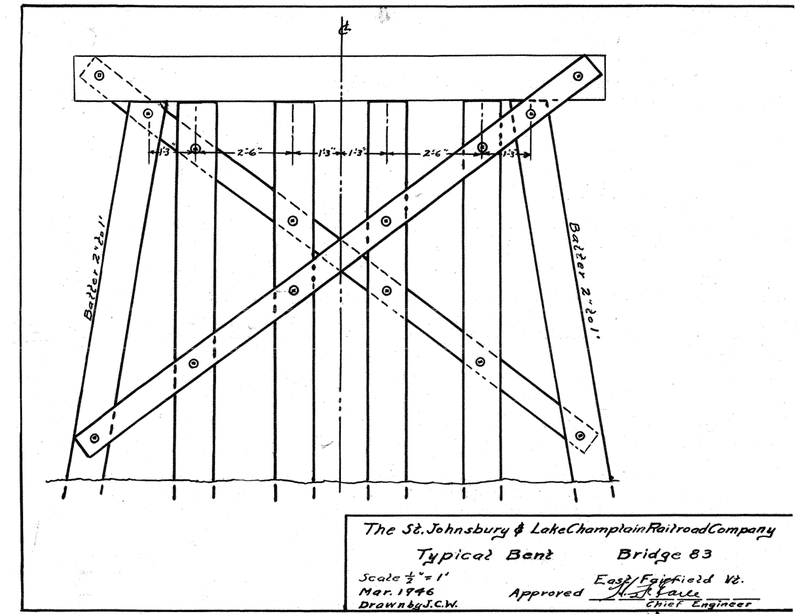
50 - 57

BRIDGE NO. 77
NOT TO SCALE

FOR REFERENCE ONLY

vhb

PROJECT NAME:	SWANTON - ST. JOHNSBURY
PROJECT NUMBER:	STP LVRT(10)
FILE NAME: z20f232refplns.dgn	PLOT DATE: 6/2/2021
PROJECT LEADER: E.P. DETRICK	DRAWN BY:
DESIGNED BY:	CHECKED BY:
BRIDGE 77 REFERENCE PLANS (4 OF 4)	SHEET 98 OF 99



The St. Johnsbury & Lake Champlain Railroad Company

Typical Bent Bridge 83

Scale ½"=1'
Mar. 1946
Drawn by J.C.W.

East Fairfield Vt.
Approved H. J. Fale
Chief Engineer

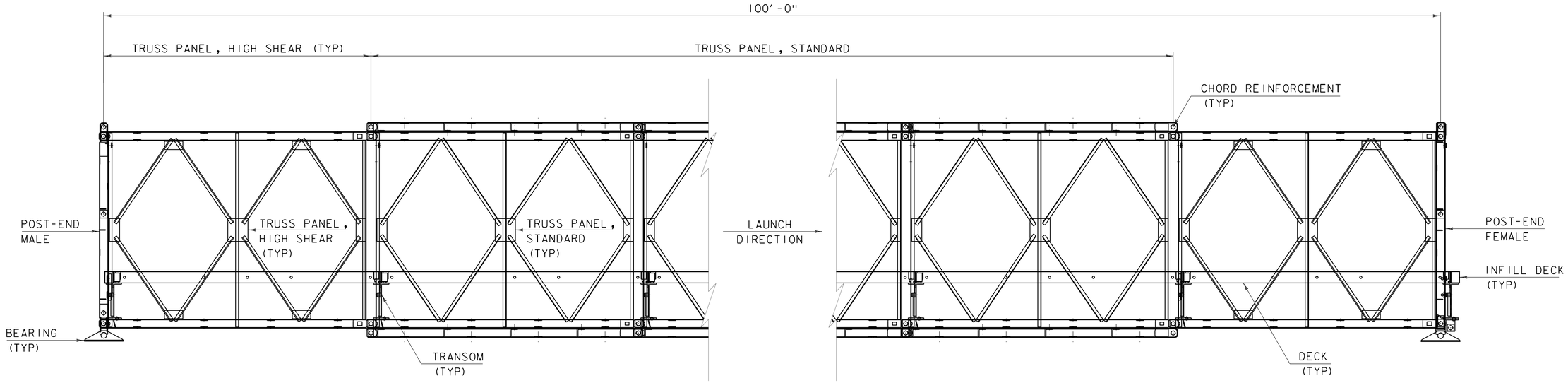
BRIDGE # 83
MP 75.31

BRIDGE NO. 83
NOT TO SCALE

FOR REFERENCE ONLY

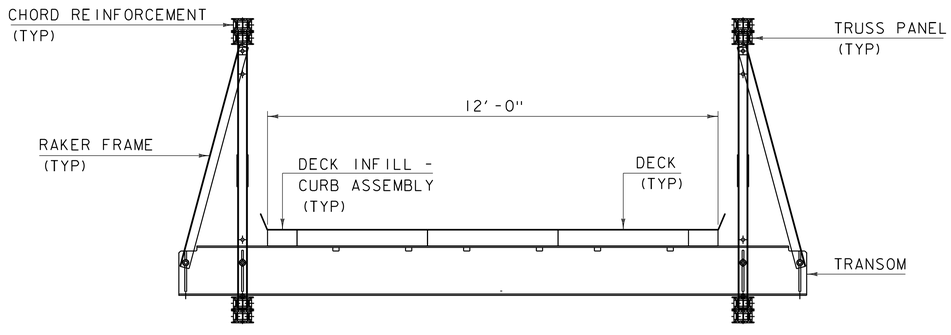
vhb

PROJECT NAME:	SWANTON - ST. JOHNSBURY
PROJECT NUMBER:	STP LVRT(10)
FILE NAME: z20f232refplns.dgn	PLOT DATE: 6/2/2021
PROJECT LEADER: E.P. DETRICK	DRAWN BY:
DESIGNED BY:	CHECKED BY:
BRIDGE 83 REFERENCE PLAN	SHEET 99 OF 99



ELEVATION VIEW

SCALE ½" = 1'-0"



STANDARD TYPICAL (SSR)

SCALE ½" = 1'-0"

PARTS LIST

PART NO.	DESCRIPTION	QUANTITY NEEDED	PART WIEGHT (LBS)	TOTAL WEIGHT (LBS)
MC 15	SWAYBRACE-STD	20	75.63	1512.60
MC 19	BEARING-SINGLE	4	38.96	155.84
MC 200	PANEL-200-STD	16	628.00	10048.00
MC 201	PANEL-200-HIGH SHEAR	4	738.00	2952.00
MC 222	BRACE-VERTICAL	20	36.14	722.80
MC 236	PLATE-BEARING	4	22.50	90.00
MC 302	CHORD REINFORCEMENT-STD-3 m	32	178.00	5696.00
MC 304	CHORD REINFORCEMENT-HVY-3 m	0	200.00	0.00
MC 307	PIN-PANEL	72	5.58	401.76
MC 307A	CLIP-PANEL PIN	144	0.22	31.68
MC 312	VERTICAL FRAME	0	116.00	0.00
MC 317	POST-END MALE 200	2	161.00	322.00
MC 318	POST-END FEMALE 200	2	185.00	370.00
MC 329	TIE BEAM	0	7.79	0.00
MC 358	BRACING FRAME	0	109.50	0.00
MC 360	DECK 1050 mm	30	674.00	20220.00
MC 378	SCREW DECK CLAMP	132	0.35	46.20
MC 379	NUT DECK CLAMP -M20	132	0.48	63.36
MC 430	BOLT-BRACING SHORT	140	0.96	134.40
MC 431	BOLT-TRANSOM	98	1.60	156.80
MC 433	BOLT-CHORD SHORT	128	2.00	256.00
MC 436	NUT-FLANGED	366	0.31	113.46
MC 450	TRANSOM-3.15-AR	11	520.00	5720.00
MC 456	RAKER ASSY RSA	18	50.00	900.00
NLC 12015	DECK INFILL-CURB ASSEMBLY	20	192.00	3840.00
NLC 12016	INFILL DECK -EOB	2	110.00	220.00
		TOTAL WEIGHT OF BRIDGE		***53972.9***
		WEIGHT WITHOUT DECK		***29583.34***

STATE OF VERMONT
AGENCY OF TRANSPORTATION

VTrans Working to Get You There. VERMONT AGENCY OF TRANSPORTATION

MABEY BRIDGE DETAIL
STANDARD TYPICAL
100 FOOT SPAN
HS25 LOADING